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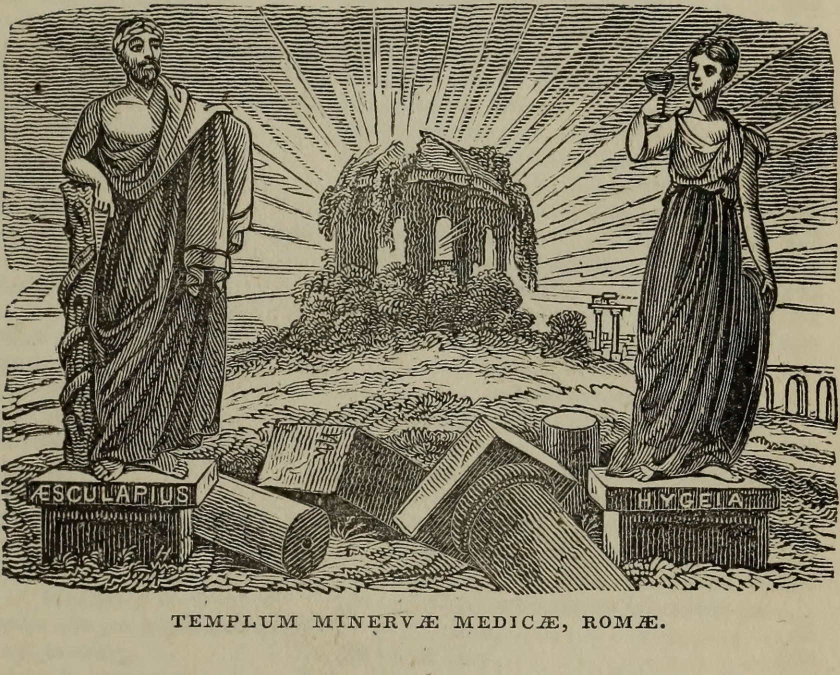

TEMPLUM MINERVÆ MEDICÆ, ROMÆ.

"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim." — WILLIS.

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MEDICAL MAGAZINE.

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I.—OBSERVATIONS ON MENTAL DERANGEMENT,

Being an Application of the Principles of Phrenology to the elucidation of the Causes, Symptoms, Nature, aud Treatment of Insanity. By ANDREW COMBE, M. D. Edinburgh, 1 vol. 12mo. pp. 392.

PHRENOLOGY is rapidly acquiring such a high standing in the medical world, and attracting so forcibly the attention of men of science in general, that, for a physician to be ignorant of it will soon be deemed as discreditable, as it would be to be ignorant of the circulation of the blood. Indeed such, to a considerable extent, is the case already among the most distinguished of the profession in Europe. Every one there must have a knowledge of the doctrines of Gall, and Spurzheim, whether he concurs in the whole of them or not. The reason assigned for this is a sound one. If those doctrines be true, every physician should be acquainted with them, in order that he may render them subservient to his profession; and if they be false, his obligation to acquire a knowledge of them is scarcely less strong, that he may be prepared to combat them, aid in their overthrow, and thus prevent the mischief they threaten to produce.

Unfortunately, the condition of things is different in the United States. Here, an acquaintance with Phrenology, especially if it be accompanied by a belief in it, far from adding to scientific reputation, is considered discreditable — at least by a large majority both of physicians and of the people. The individual possessing such acquaintance and belief is accounted a speculator if not a visionary in science, addicted to the consumption of his time in pursuit of phantasies. And, if he be a physician in business, he must deem himself fortunate, if his phrenological knowledge does not limit materially the sphere of his practice. To our certain knowledge, an apprehension of this has induced many young physicians to conceal entirely, or to disclose with caution their belief in Phrenology, and has deterred others from the study of it.

For such a state of the public mind in our country, there exists an obvious reason. By the great body of the people, and we regret to add, by most of the faculty also, the very import of the term Phrenology is not understood. Singular as this statement may perhaps appear, it is, notwithstanding, true. But few persons in the United States, whether bred to medicine or not, either speak or write about the science, without proving its truth — without showing clearly that they have derived their views of it from a fallacious source. They have either imbibed their notions from rumor, or from newspapers, or others periodicals unfriendly to Phrenology, as well as ignorant of it; or they have framed them for themselves without knowledge. Be the source of it what it may, their Phrenology is spurious. It is not the Phrenology of Gall and Spurzheim. It contains many tenets, which they never avowed, and but few of those which they did. In fact, it consists, in a great measure, of conceits idly and ignorantly formed and adopted, or of falsehoods artfully framed by the enemies of Phrenology, and industriously propagated to bring the science into disrepute. Thus, by the ignorance and error of some, and the evil passions and sinister views of others, the public are deluded and abused, to their own prejudice, and to the prevention of the advancement of useful knowledge. They are led to believe that Phrenology, if not unfriendly to morals and religion, and therefore fraught with mischief, is at least frivolous and useless, and unworthy of their attention. Hence, far from studying it, they listen to its name but with a frown or a sneer. Influenced by these considerations, and anxious to procure for it a grave and unprejudiced examination, we have been induced to hope that it may be acceptable and useful to prefix to our review of the volume before us, a succinct exposition of the nature, and some of the fundamental principles of the science.

By this our readers may be the better enabled to judge, whether it be a suitable subject of study for them, or one which they should continue to hold in discredit.

Phrenology must be intepreted differently, according as it is considered metaphysically, or physiologically. In the former point of view it may be denominated the philosophy of mind acting in union with organized matter. In the latter we would term it an exposition of the structure and functions of the brain and nerves, the highest material portion of man; in more technical language, the anatomy and physiology of the nervous tissue, including the brain and spinal cord. In whatever light however it may be considered, it treats of man in his highest capacity — as an intellectual, moral, and religious being — as fitted for the elevated station he occupies in this world, and as extending his aspirations and hopes to another.

In the nature and object of the science then, there is nothing either frivolous or of evil tendency; nothing to warrant either ridicule or censure. On the contrary, it is more grave, lofty, and dignified than any other branch of science whose object is man; than any branch in fact that has mere matter for its subject; for it, we say, embraces the union of matter and mind. In neither elevation nor attractiveness can the anatomy and physiology of any other tissue of the body come into competition with it. It is the *chief*, while *they* are but *subordinates* — the brain with its appendages being the commanding organ of the system. How unreasonable is it then, and how contrary to the dictates of common sense, and we might add, of duty, for students of medicine and physicians to neglect this organ, that some knowledge may be attained of others which are greatly inferior to it; to spend months and years in dissecting and examining skin, muscles, blood vessels, glands, lungs, stomach, intestines, and bones, and to hurry through the study of the brain and nerves in a few days or weeks; in more correct language, not to *study* them at all; for the attention usually bestowed on them does not deserve so respectable a name. Yet such is the fact. We have seen many a medical pupil, and many a physician also, who affected to despise Phrenology, and who refused to devote a day or perhaps even an hour to the study of the brain and its functions, spending a week or more in making a preparation of the hand and arm. But we must proceed to a recital of some of the fundamental tenets of the science.

The human mind is not a single power, but consists of thirtyfive original faculties distinct from each other, and divided into three classes; the animal, the intellectual, and the moral. These faculties are innate, and each of them has its own cerebral organ, by whose instrumentality it acts and is manifested. No one organ can perform the function or manifest the faculty of another.

The brain is the general organ or apparatus of the mind, without whose coöperation no mental faculty can be exhibited, and no act of intellection, sentiment, or feeling be performed, any more than bile can be secreted without the liver, or the blood arterialized without the lungs. In the present condition of man—and Phrenology embraces no other—we have no ground to believe that his mind alone, without the aid of its material organ, can either feel, collect knowledge, or reason, any more than the organ can, without the aid of the mind. Whatever is done by them in that way, is the result of their united agency.

The brain then is a compound or aggregate organ, consisting of as many distinct subdivisions, as the mind possesses of primitive faculties. Of these subdivisions, those which are the organs of the animal faculties constitute the inferior, posterior, and part of the lateral portions of the brain; the organs of the intellectual faculties, which are again divided into the knowing and the reflecting, form the front and a small portion of the sides of the brain—that part which is covered chiefly by the *os frontis;* and the moral organs make up the superior arched portion of the brain, and as much of the sides as lies above the animal organs. In the circumstance of each subdivision of it being the instrument of but one faculty, the brain resembles the nerves, no one of which can perform more than a single function. A nerve of sense cannot serve as a nerve of motion; a nerve of involuntary cannot be instrumental in voluntary motion; nor can the nerve of one external sense perform the office of the nerve of another. Though Charles Bell was the first to demonstrate this important fact, Dr Spurzheim had declared his conviction of its truth many years anteriorly—we believe not less than ten or twelve.

The cerebral organs originate about the centre of the basis of the brain, and run in every direction to its periphery. The central point, constituting the root or beginning of the organs, lies in a direct line between the external openings of the ears. The place where each organ terminates on the surface of the brain is also known, and was discovered by observation. The position of the several organs therefore, as well as their functions, are ascertained.

Of the three cerebral masses, that composed of the animal organs is the largest; that of the moral organs next; and the portion consisting of the intellectual organs is the smallest.

The cranium, which, except in old age, is of very nearly the same thickness in every part of it, is completely filled by the brain and its membranes. That bony case being obviously made as a covering for the use and accommodation of the brain, must conform to it in figure, else, instead of protecting and benefiting, it would compress and injure it. Every irregularity, therefore, on the surface of the brain, whether it be a projection or a depression, is accompanied by a corresponding irregularity on the surface of the cranium. Both the shape and size of the brain, then, are indicated by the shape and size of the cranium. The reason why the heads of no two individuals are similar in figure, is because the same cerebral organs in them have not the same dimensions in relation to the adjoining ones. Their relative size is greater or smaller. Hence the endless variety in the character of the intellect, as well as in the form of the head.

In the same individual the organs often differ much in their magnitude, from the relative proportion common to the human brain. One or more of them acquire a size considerably, sometimes greatly, beyond the others, making the surface of the brain very irregular and uneven. This inordinate size can be discovered by an inspection of the head, in consequence of a fulness or protrusion of the cranium immediately over the termination of the organ. On this depends the art of cranioscopy—the art, we mean, of detecting the development of the brain; and the character of the individual, from the shape and general appearance of his head. And, by a person practised in examination, and familiar with the science, this can be done with much accuracy; and in cases of large or very deficient development, with entire ease.

Other things being alike, the strength of each mental faculty is in proportion to the size of its cerebral organ. This is a principle of great importance in Phrenology; and it pervades all nature. *Cæteris paribus*—size is everywhere the measure of power, in dead matter as well as in living. Size is not, however, the *only* condition of power. It is but *one* condition, and is of but little avail, if others are wanting. But when these conditions exist, i. e. when all other things are equal, magnitude and power may be called identical.

In the cerebral organs, intensity or height of tone may compensate to a great extent, for deficiency in size. The same is true of every sort of organ belonging to the body. Other things being equal, a large muscle is stronger than a small one. But a great superiority in the tone of a small muscle may, and often does, render it superior in strength to a large one. In like manner, a small man often surpasses a large one in strength, owing to a superior temperament, or a general condition of greater intensity. The brain is rendered more or less vigorous therefore, by the same causes which produce a similar effect in other parts of the body. Thus does analogy unite with observation in proving that, other things being equal, cerebral power is in proportion to cerebral size.

Notwithstanding these truths, which are unquestionable, a human brain may be, in totality, very large, and yet the intellectual faculties of the person possessing it very moderate. The reason is plain. The size of the animal or moral organs, or both, is great, but that of the intellectual ones small. The power of the several organs, therefore, being in proportion to their own size, not in proportion to that of the whole brain, the intellectual faculties are necessarily weak. Again; the entire brain may be of very limited dimensions, and yet the intellectual faculties vigorous. The reason is, that the development of the knowing and reflecting organs is full, and that of the animal and moral ones deficient. In like manner, one man with a very large brain may be deplorably wanting in moral powers, while another with a small one is richly endowed with them. The reason of this also is manifest. The large brain is defective and the small one full, in the development of the moral compartment. The want of tone is another reason why a brain well enough developed in all its organs may not be accompanied by a vigorous intellect. This is the case in persons of a phlegmatic temperament. Both their brain and their muscles are unusually feeble, compared to their size.

When the animal organs are very large, and the intellectual and moral ones diminutive, the individual thus constituted, not a great *man*, is a great *animal*, and usually a profligate one, unless prevented from becoming so by education and example. His character possesses necessarily some description of strength, and that description conforms to his ruling organ. It is animal. When the moral organs are very large, no matter what may be the amount of the individual's intellect — great or small — he has strong moral sentiments, and will not be easily led into vice. He is moral by instinct, and performs many correct and conscientious acts, without perhaps being able to assign a good reason for them, except that they are gratifying to him. Such a man 'follows virtue, even for virtue's sake.' But, that a person may be truly great — in intellect, in morality, and in active energy of character, — so as to have a commanding influence among men, and stamp his impress on the age in which he lives, — all his organs must be largely developed. This gives his brain unusual dimensions; and his cranium corresponds to it. Every truly great, good, and energetic man, therefore, has a large head. Such is the decision of Phrenology; and observation confirms it. No man with a *small head* has ever been the author of great events, or has stamped an image of himself on his country or his age. He has never made his contemporaries feel his power, nor posterity regard it with admiration and astonishment. The achievements of such a man have never led to a revolution either in science, letters, religion, politics, war, or any other form of knowledge or action. History unites with observation in confirming these truths. Bacon, Luther, Shakspeare, Newton, Franklin, Napoleon, Wallis, and Walter Scott were all revolutionizers, each in his own department; at least they impressed their images indelibly on the times in which they lived; and each of them had a large head. Nor can any living personage of real greatness be designated, whose head is not large.

Such are a few of the fundamental tenets of Phrenology, which we have deemed it advisable to propound to the reader, that he may the more readily understand the quotations we shall make, and the remarks we may offer, in the course of our review. We shall only add, that we have avoided everything conjectural; and that all we have stated is as susceptible of proof, as the propositions in physiology or pathology, which are considered as settled.

As respects the work we are about to examine, if we did not deem it both able and valuable, honorable to its author, and well fitted to do justice to the science, which constitutes its basis, we would not have selected it as the subject of a review. Dr Combe was not the first to apply phrenological principles to the elucidation of the nature and treatment of insanity. He was preceded by Spurzheim, Georget, Falret, Voisen, and perhaps some others. But he has clearly shown, that though the field had been preoccupied, it was far from being cultivated to the extent of its susceptibility, and farther still from being swept of the abundant harvest it may be made to yield. To throw away figure, and speak in the plain language of science and sincerity, we have read no production on mental derangement which we consider so valuable as the volume before us; none which unfolds, so much to our satisfaction, the philosophy of the disease, or leads to so rational a mode of preventing and removing it. If we might repeat the same sentiment in another form of expression, we would say, that we have perused no other book containing so much of *common sense* on the subject of madness, or which presents such striking, instructive, and practical analogies between that and the diseases of other parts of the system, which renders the reader so familiar with the complaint, by demonstrating its affinity to other affections intimately known to him. Our author has stript insanity of much of the mysterious covering, which many other writers, especially metaphysical ones, had contrived to throw around it, and exhibited it undisguised to the view of the physician. He has given it a 'local habitation,' as well as a name, and proved it to be to the brain, what irritation, inflammation, and sometimes exhaustion are to other organs of the body. In doing all this, he has but acted as the able and faithful minister of Phrenology; for on that science he has drawn for his philosophical principles; and from them again he has deduced his modes of practice. In fine, he has thrown light enough on his subject to convince every intelligent and candid inquirer, that an attempt to treat madness, without a thorough acquaintance with the functions of the brain, and their modes of manifestation, both in health and disease, united to an accurate knowledge of the conditions of that organ productive of such derangements of function as may present themselves, is rank empiricism; and he has further shown, that the information required can be derived only from that source, which, in justice to its founders, might well be denominated the SCIENCE of GALL and SPURZHEIM. Although other writers had done something on this subject before our author, no one had done it so fully and forcibly.

Besides an interesting and well written introduction, Dr Combe has divided his work into ten chapters, a brief view of the general drift of each of which, with extracts from some of them, we shall present to the reader.

Chap. I. This chapter, which is headed, '*General remarks on the functions of the brain and nervous system,*' is but preparatory to those that follow it. The views it contains are so analogous to those with which we have introduced this paper, that we think it unnecessary to repeat them, either by extracts or otherwise. The result of the entire discussion our author exhibits in the following brief propositions.

'The fundamental principles of the new physiology of the brain, are,

1. That the mind is endowed with a plurality of innate faculties.
2. That each of these faculties manifests itself through the medium of an appropriate organ, of which organs the brain is a *congeries.*
3. That the power of manifesting each faculty bears a constant and uniform relation, *cæteris paribus*, to the size of the organ, or part of the brain, with which it is more immediately connected.
4. That it is possible to ascertain the relative size of these different organs during life, by observing the different forms of the skull to which the brain gives its shape.'

Chap. II. In this chapter also are contained several of the views which we have already expressed. It treats of the '*Influence of organic size on energy of function, particularly as applied to the organs of the external senses and brain.*' Deeming the principle, that 'other things be equal, the power and activity of an organ is in proportion to its size,' of great moment in the philosophy of madness, he treats it at considerable length, and with much clearness, and adduces many facts in illustration and confirmation of it. He pronounces the principle universal, as well as true, and asserts that the only reason why any one can doubt it is, because the condition of *cæteris paribus* is sometimes left out. The following passages will show the manner in which he handles the subject, and serve as a specimen of the ease, sobriety, and perspicuity of his style.

'In physics, the relation between Size and Power is universally acknowledged, and is susceptible of mathematical demonstration; for it is nearly synonymous with the hitherto undisputed axiom of a whole being greater than a part. Every large organ is, *cæeteris paribus*, made up of a greater number of integrant parts than a small one; and if, in the small one, each of these parts is equivalent in force to a given quantity, it necessarily follows, all other circumstances being equal, that the force of the large will exceed that of the small organ, by the united quantity of all the additional individual parts; and no way of escaping this conclusion can be got, except the unfair one of keeping the *cæteris paribus* out of view. If this were not the case, we would as soon expect to see a breach effected in the massive walls of a fortification, by a rapid and sustained discharge of musketry, as under the reiterated blows of heavy artillery. But it is the animal kingdom which chiefly concerns our present argument, and to it I therefore proceed.

'It will scarcely be disputed, that the strength of the bones is always, *cæteris paribus*, proportioned to their size; and the slightest consideration will satisfy every one, that the same principle applies equally to the muscular system, which, indeed, its structure sufficiently demonstrates. Muscles are composed of a great number of nearly parallel fleshy fibres, each equal in itself to a given force. If, then, the bulk of the muscles be increased either by a greater thickness, or by an additional number of such fibres, it is physically certain, even *a priori*, that the amount of force which they are capable of exerting will be increased in exact proportion; and, accordingly, the left ventricle of the heart, which sends the blood to the remotest parts of the body, is at least double the thickness of the right, which requires only force enough to send it through the lungs. But, although muscular, like cerebral size, is, *cæteris paribus*, a measure of strength, still it is by no means the *only* condition. There are circumstances in which vigorous motive powers are required in combination with as small muscular bulk as is possible to be attained, and there are others where bulk is of no consequence. To effect the former modification, a beautiful arrangement is made by Nature, and in strict accordance with the principle we are now proving.'

In searching for matter to establish the truth of this principle, he appeals to the nerves of all the external senses of animals, as well as to those of voluntary motion, and finds it in abundance. Wherever there exists unusual acuteness of sense, or inordinate power of motion, the cause uniformly consists in an uncommon amount of nervous matter. Is vision or hearing in an animal unusually keen and powerful? the optic or auditory nerve is large, in a corresponding ratio. Of the other senses, as well as of muscular motion, the same is true. Nor is it less true of the brain. And this the writer not only proves, but shows that it has been acknowledged ever since the time of Aristotle, and was in no instance denied, until after the discoveries of Gall. Then, the opponents of that great man, regardless alike of truth and falsehood, and resolved to assail him with every weapon they could find or invent, for the first time put their negative on the principle, to discredit and subvert the doctrines he taught. A distinguished writer in Edinburgh pronounced the proposition to be too ridiculous to be seriously thought of. Yet our author, we repeat, has clearly made it appear, that its truth had been acknowledged, in ancient times, by Aristotle, Erasistratus, Pliny, and Galen; and more recently by Blumenback, Sommering, Cowper, Cuvier, and others, who rank with the foremost physiologists of the age. Yet, says our author;

'Plainly as these principles *now* open to our view the path of knowledge, it was not by tracing them to their consequences that Dr GALL actually made his discovery. He never thought of this any more than did those who preceded him. It was the casual and repeated observation of the concomitance of great energy in a particular mental power, with great size of a particular and individual part of the brain, that first arrested his attention, and forcibly directed his notice to the inquiry, whether these facts were connected in the relation of cause and effect, and whether other mental powers might not also depend for their energy on the size of other individual parts of the brain; and it was not till years after he had satisfied himself by the most extensive and varied experience, that the energy of several, at least, of the mental qualities bore an uniform relation, *cæteris paribus*, to the size of particular parts of the brain, that the idea occurred to him of tracing the relations of these parts to the general principles of physiological and natural science. This, then, while it proves, that, let Phrenology be what it may, still it is NOT the offspring of theory, affords also strong grounds of probability in favor of its truth, from the circumstance of all its doctrines, picked up as it were piece-meal, being in perfect harmony with the best established principles of science, and, consequently, offers a strong inducement to every reasonable and inquiring mind, to enter upon its serious and candid examination.'

In Chap. III. is discussed the proposition, that '*Mental derangement is always symptomatic of cerebral disease.*' After a number of pertinent and interesting remarks on the subject, our author comes to the following conclusion.

'Mental derangement, then, properly speaking, is a disordered state of the functions of the brain, arising from some existing morbid action in that organ, which may or may not involve at the same time the functions and organs of the external senses, but which frequently exists without any such complication, and which must be remedied before the alienation can be removed. Ignorance of the physiology of the brain has alone prevented this great truth from being generally perceived and acted upon; but now at last, thanks to the genius, intrepidity, and unwearied industry of Dr GALL, this obstacle has been almost surmounted, and a light thrown upon the subject by his discovery of Phrenology, which promises to lead to the most beneficial results, and which has already divested the subject of madness of much of its obscurity, and, let us hope, of some of its terrors. Years must no doubt pass on before our knowledge of the functions of the brain will be complete, and before an adequate conception can be formed of the advantages which will ultimately accrue to medical and moral science from their discovery; but the great principles are already firmly established, and already, by the simplicity of their application to the elucidation of the morbid states of the human mind, they give evidence of their foundation in truth, and of their incalculable superiority to the mere speculations and groundless theories which have so long usurped their place.

'By constantly drawing attention to the connexion subsisting between the power of manifesting every mental faculty, and the condition of its particular cerebral organ, Phrenology places derangements of the internal faculties in the same relation to the organic affection producing them in which Physiology places the derangements of the five external senses. Sight is never impaired, nor hearing destroyed, unless the organs which execute these functions are diseased; and, in like manner, thought and feeling are never deranged, unless the cerebral organs by which they are manifested have undergone some morbid change.'

Again:

'Phrenology has proved, and indeed it is scarcely disputed, that the brain is an aggregate of many distinct organs, each manifesting a distinct mental power. It proves that one or more of these organs may be injured or diseased, and their functions impeded or altered, without necessarily affecting the remainder; and thus explains how a man may be insane on one feeling or faculty, and sound on all the rest; and, consequently, how, when a different organ is diseased, the faculty or feeling that is deranged may be different, and the prominent symptoms be different, and yet the disease itself remain exactly of the same nature. Inflammation affecting the eye disturbs *vision*, and, affecting the ear, disturbs *hearing*, because vision is the *function* of the one, and hearing is the *function* of the other; but still it is *inflammation* in both, and requires in both the same kind of treatment. Phrenology shows that, in like manner, morbid excitement of the cerebral organs of Combativeness and Destructiveness may produce raving, violence, and fury; and morbid excitement of the organ of Cautiousness produces fear, apprehen sion, despondency, and melancholy; not from any difference in the *kind* of excitement, but simply from the function of the one being to manifest the propensities first named, and from the function of the other being to manifest the feeling of caution; and that hence both cases may require the same medical treatment for their removal, modified only by the difference of function; and, in so far, it affords a simple and consistent explanation of all the various forms which insanity assumes, and leaves us free to observe with care the nature of the organic derangement on which each depends.'

These extracts are given rather as specimens of our author's manner of thinking and writing, than as containing any of his *arguments* in support of the tenet for which he is contending. For a knowledge of *them*, and much other valuable matter, the reader is referred to the chapter itself. A want of space forbids us to lay it before him. We shall only add, that the proposition contended for is amply sustained.

Chap. IV. treats of the '*Predisposing causes of mental derangement*,' and abounds in matter of peculiar value. The strongest predisposing cause of madness, Dr Combe correctly alleges to be that which is *inherited* from deranged ancestors. The existence of this cause is universally acknowledged. We are not, however, to understand by it that

'The actual malady is conveyed from parent to child, and that, after lying latent for some years, it will inevitably appear in the child, in whatever circumstances he may be placed. The meaning is simply, that some quality of brain is communicated to the offspring, rendering them more prone than other people to undergo cerebral disease, and thereby to become insane; and in consequence of which, causes will produce mental derangement in them, which, in any one not so predisposed, would have proved perfectly harmless.'

Though hereditary predisposition occurs in every class of society, it prevails most extensively in the higher classes. In proof of this it is observed, that

'In the Salpetrière at Paris, for instance, which is a hospital for paupers, out of 321 female lunatics, only 105 were ascertained to belong to families in which madness already existed; while, out of 264 of the higher classes, 150, or *more than one-half*, were in this predicament. The experience of Dr BURROWS is still more decisive, as he assures us that he clearly ascertained the existence of an hereditary predisposition in SIX-SEVENTHS of all his patients in private practice.'

A predisposition to madness allied to the hereditary may be communicated to the offspring, by the condition of the mother during pregnancy, even though she be not herself actually predisposed. Her being kept in a continued state of distress and alarm, has been found, by experience, to produce the effect.

'The second form in which departure from the first condition of cerebral health produces liability to cerebral disease and insanity, is that in which, from an unusual severity of some of the diseases incidental to infancy, injudicious training, confinement to warm and ill ventilated apartments, over-feeding, too early and too great straining of the mental powers, too ready gratification of all the passions, inclinations, and caprices of youth, and a variety of other similar causes, an unusual susceptibility has been impressed upon the nervous system, laying the foundation for the subsequent occurrence of cerebral and mental affections often from very trifling causes.'

Our author refers to a third predisposing cause of insanity in the following words:

'We cannot fail to attach much importance to a just proportion in the development of the different parts of the brain, and can have no difficulty in believing that *excess of endowment* in some organs, with corresponding excess of functional activity, is a very common predisposing cause of mental derangement.'

Considering this '*excess of endowment*' as tantamount to an excessive development of the organs so endowed, the writer thus illustrates and defends his doctrine.

'Viewing, accordingly, as every observant phrenologist must necessarily do, the mention of the preponderance of function as equivalent to that of the preponderance of organic development, I regard the following passages from M. ESQUIROL's excellent work "*On the Passions, considered as Causes, &c, of Mental Alienation*," as evidence of irregular or disproportioned development of the different organs of the brain being a powerful predisposing cause of cerebral disease, and consequently of insanity. "Almost all the insane committed to my care," says that author, "had offered some irregularities in their functions, in their *intellectual faculties, in their affections or feelings*, BEFORE becoming insane, and *that often from their earliest infancy.* Some had been distinguished for "*excessive pride*," (excessive predominance of the organ of Self-esteem); "others for *great irascibility*," (predominance of Combativeness and Destructiveness;) "some for frequent *melancholy*," (predominance of Cautiousness;) "others for a *ridiculous levity*," (defective Cautiousness, predominant Hope, and Love of Approbation); "some for a *desolating instability* for receiving instruction," (defective Firmness and Intellect); others for an *obstinate application* to whatever they undertook, (predominant Firmness); others again were *peevish, discontented fearful, timid,* and *irresolute,*" (excessive predominance of Cautiousness, and defective Combativeness and Firmness). And, as if still more clearly to fix the cerebral seat of insanity, he goes on to say, that "most of them had suffered from nervous diseases — the women from convulsions or hysterical spasms, and the men from cramps, palpitations, or palsy; *with these primitive or acquired dispositions, nothing more was wanting except some moral affection, to determine the explosion of furious mania, or the deepest melancholy.*" To the phrenologist nothing can be more striking and instructive than the above exposition; not only does it indicate the cerebral seat of insanity, but every line of it points to the disproportion of the different parts of the brain to each other as the most remarkable feature in the constitution of those thus declared to be predisposed to the invasion of cerebral disease. To the phrenologist, the excessive pride, the great irascibility, the frequent melancholy, the ridiculous levity, the desolating instability, the obstinate application, and the timid and discontented peevishness, speak of excessive preponderance of some cerebral parts, and defective size of others, as plainly as if he saw them with his eyes.'

In proof of the truth and influence of this predisposing cause of madness, Dr Combe introduces a very striking and instructive narrative. In the month of April, 1829, his brother, George Combe, Esq., the author of several phrenological productions, of great ability and value, made a visit to the Richmond Lunatic Asylum, in Dublin. Twentythree of the insane inmates of the institution were introduced to him for inspection, in presence of the governors and attending physicians. The lunatics were entire strangers, whom he had never seen nor heard of before. Yet he deciphered with great accuracy, the nature of the derangement of *sixteen* out of the twenty-three, *from their cerebral developments.* In four of the others there was no marked development; and 'in *one* the features of the hallucination and the predominant organization did not correspond.' This is history; and the facts here stated admit of but one interpretation. *Excessive development and activity of cerebral organs predispose to madness.* Hence the truth of the oft quoted line;

> 'Great wit (genius) to madness nearly is allied.'

A neglect to employ the faculties of the mind, each in its own sphere, and to a proper extent, is another predisposing cause of madness. Exercise is an indispensable condition of health, and is imposed on the brain, in common with all other parts of the body. If any organ be too long unemployed, the result is debility and an increased liability to disease. Hence, in those who do not regularly exercise all the faculties of their minds, the brain loses its healthy balance, and becomes predisposed to derangement. This is a circumstance possessing an importance far beyond what is usually attached to it. Our author's remarks, in illustration and proof of it, are full and conclusive. The chapter should be carefully read by every one.

[To be continued.]

ART. II. — MASSACHUSETTS GENERAL HOSPITAL.

Case of Dislocation of the Hip, with an Account of its Reduction.

By GEORGE HAYWARD, M. D.

JOHN METCALF, tailor, aged 24 years; came to the Hospital Thursday, April 25th, 1833, to be examined in consequence of an injury of the right hip. Nine days previous to this, he had been upset in a chaise, and severely injured. The attending physician suspected a dislocation of the os femoris of the right side, but the contusion, swelling and tenderness were so great that he could not make a sufficiently thorough examination to enable him to decide with certainty. By the application of fomentations and leeches, the administration of cathartics, and cofining the patient to a low diet, the swelling had somewhat subsided, and the tenderness was entirely gone at the time he came to the hospital.

At that time the right limb was about an inch shorter than the other; the patella of that side being about that distance above the other. When the patient stood up, the great toe of the injured side rested on the ball of the great toe of the other foot. There was no perceptible alteration in the position of the foot; perhaps in a very careful examination it might be said to incline a little inwards. When erect the toes rested on the floor, but the heel did not. The body was slightly inclined forward. The thigh could not be rotated ; the great trochanter was about an inch behind its ordinary place.

It was therefore decided that the hip was dislocated upwards and a little backwards. The patient was admitted into the Hospital, put on low diet, and directed to take a cathartic. On the following morning he was put into a warm bath, at a temperature somewhat above 100° and kept there for thirty-five minutes. He was then brought into the operating theatre, and laid on his left side on the table. A quilted strap was passed between the scrotum and the thigh, and attached to a staple behind him. A wetted napkin was put around the limb, just above the knee, a quilted band, with two rings, was buckled over this, and the hook from the pulleys was then attached to the rings. Extension was then gradually made, carrying the limb over the well one, drawing it in a direction downwards and a little forwards. After the force had been applied for three or four minutes, the band around the knee slipped so much, as to make it necessary to relax the pulleys. The apparatus, was, however, immediately reapplied, and the extension resumed. It now became evident that the muscles were yielding, and when it was perceived that the trochanter had moved downwards, the limb was rotated inwards, and the head of the bone slipped into the acetabulum, with a noise that could be heard in most parts of the room. The reduction was accomplished in twelve minutes from the time the extension was first applied. It was not found necessary to draw blood, nor to administer the solution of tartarized antimony. The limbs were fastened together by a roller, for three days ; the patient was kept on a low diet, and a cathartic was administered. No pain or unpleasant symptom of any kind followed, and in seven days he was able to walk, and in ten days from the time of the reduction, he was discharged from the Hospital well.

ART. III. — REVIEW OF THE MEDICAL TESTIMONY IN A CASE OF ALLEGED MURDER.

Report of the Examination of David Gibbs, Fanny Leach, and Eliza P. Burdick, for the alleged Murder of Sally Burdick, at Coventry, R. I. on the 18*th Feb.* 1833. *From minutes taken at the examination and published under the direction of the examining Magistrates, and at the request of the Prisoners.* Hartford.

IN deviating from our ordinary routine of recording the progress of medical science, to assume the disagreeable and responsible task of animadverting on the opinions and practice of individuals, our readers will see a sufficient reason, we trust, in the necessity of the case, and in our sense of duty to the public, as honest and independent Journalists. We should consider ourselves unworthy of the countenance of the profession which we now enjoy, were we to stand by quietly, and see the dignity of the medical character degraded, and the lives of our fellow citizens jeopardized by public exhibitions of the most gross and presumptuous ignorance that has ever disfigured the records of medical jurisprudence. Such instances, thank God, are not common among us; but when they do occur, it is the bounden duty of Medical Journals, which were established for the very purpose of watching over the interests of the profession, to visit them with the severest reprobation, and from the performance of this duty, neither fear nor favor shall ever deter us, fall the blow wherever it may. In the remarks we are about to make on the pamphlet whose title stands at the head of this article, we positively disclaim being actuated by any personal considerations. We have no private pique to gratify, not a single feeling of animosity to indulge; for of the individuals in question we know absolutely nothing more than what appears in the book before us, — we have never seen nor heard their names before nor since. What may be their age, standing, or repute in their neighborhood, we neither know nor do we care; our business is solely with their opinions and practice as recorded here, and if, from an examination of these, our readers should draw unfavorable results as to their professional acquirements, it certainly will not be our fault. After making the largest allowance for typographical inaccuracies, inexperience, and want of preparation, there is still enough left to call for the censure of every liberal and enlightened member of the profession; and in the hope that this notice will prove a salutary warning for the future, and impress on the mind of the young practitioner the existence of other duties besides the mixing of drugs and spreading of plasters, we proceed to our business.

It appears that the deceased having died rather suddenly, after a few days' illness, under strong suspicions of foul play, an examination of the body was ordered by the proper authorities, and the evidence of the physicians who conducted it is recorded in the Report before us. It is with this evidence alone that we have anything to do at present, and though it comes from four different physicians, one of whom says, he is a graduate of a college, and three of them at least are of some age and experience, and although as far as we can learn the examination was made under circumstances which allowed of due deliberation and careful dissection,* we unhesitatingly declare our conviction that an intelligent profession will visit upon their heads the charge of gross ignorance of morbid anatomy, and a shameful disagreement in stating appearances, which any men of common sense might understand and describe. The dissection of the body was made about a fortnight after death by Dr Cyrus James of West Greenwich, in presence of Dr Thomas O. H. Carpenter, Jr, of Foster, Dr Mowry Burgess of Plainfield Conn., and Dr Peleg Clarke. The first thing, of course, that attracted their attention was the uterus, which, together with a portion of the vagina, was removed from the body, for the purpose of more convenient inspection. In its neck were discovered seven wounds, each about two and a half inches in length, made, apparently, by a round blunt-pointed instrument, the size of a goose quill.† They did not penetrate the cavity of the womb, however, and the membranes were untouched. Thus far the evidence of the physicians is unanimous, but no farther agreement between them on any matter of consequence, is to be found, though all of them had eyes, to see with, and fingers to feel with, and knew that their testimony must affect the lives of some of their fellow-citizens.

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* It would seem from some of the evidence (Mary Jordan, p. 20) that the body was disinterred for examination.

† This was probably the instrument loaned to Fanny Leach by Dr W. A. Hamilton, of Providence, and although much confusion is occasioned by callling it a pair of forceps, it was, no doubt, the perforator, commonly supplied to the obstetrical case. The following is Mary Ann Briggs's description: 'The instrument was about a foot long, it opened like a pair of scissors, the points were like scissors but rounding at the end.' A certificate is appended to the report of the trial granting Dr Hamilton an 'honorable discharge' from the prosecution against him.

Strongly suspicious, as they must have been of the cause of these wounds, the external organs of generation, one would suppose, would have been most carefully and thoroughly examined. This, however, considering the discrepancy of the testimony on this point, could not have been done. Dr James describes* the capacity of the external organs, to have been enlarged enough to 'receive his fist without much resistance,' and to use again his own felicitous and delicate language, 'a large rat might have gone in and come out again without much difficulty;' 'the parts were injured and mangled;' one of the labia was injured, and there was a spot the size of a quarter of a dollar, in a state of gangrene. Dr Carpenter says, that the external parts were not different from dead persons' generally. Dr Burgess says, he saw nothing peculiar about them, though 'he did not particularly examine;' he supposed, (sagacious man), 'if injury had been done, it would not be to the labia, and therefore simply looked at it.' Dr Clarke says, they were much 'enlarged or dilated,' but mentions no other morbid appearance. What now can we infer from such testimony as this? Nothing, certainly, but that these gentlemen were guilty of most unpardonable neglect, or equally unpardonable discrepancy of opinion. And yet if these wounds were made by the deceased herself, — and some of them concluded she might have made them, — and in a bungling manner too, the great probability of some injury to the external parts must have offered itself to the dullest head, and suggested the propriety of a careful inspection.

It appears that a 'double handful' of coagulated blood was found in the abdominal cavity, and though one physician, Dr Carpenter, confidently believed that it could not have come from the wounds, and Dr Clarke doubted on this point, no attempt was made to trace it to any other source. Burgess's doubts are of a different kind, and very bluntly expressed, for it seems he could not determine whether or not the blood was produced by the dissection — a sly hint of his brother practitioner's want of dexterity in the use of his knife, which *we* certainly did not need. The above opinion is founded on anatomical considerations which it would be highly unpardonable in us not to make known to our readers. Carpenter thinks, the blood could not have come from the wounds because they were chiefly on one side of the uterus, while the blood was chiefly on the other; and is firm in the belief, that the blood 'came there before coagulation and there remained.' James, with an acumen that must have astounded his brethren, throws out the idea that the blood might have passed between the womb and sacrum, provided she lay partly on her side, and thus be found on the side opposite to that of the wounds.

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* Dr James must have delivered quite an obstetrical lecture in court, to the practical edification, no doubt, of his auditors. The report states that he 'demonstrated the manner in which an abortion is produced, having a diagram of the parts, and showing the manner in which the instrument is introduced, and the membranes broken.' Although 'knowledge' no doubt 'is power,' we suspect it were best that the 'schoolmaster' should not 'be abroad' upon such subjects.

The same unaccountable discrepancy is manifest, likewise, in the evidence relative to the appearances in other parts of the body. The stomach, says James, was 'not generally inflamed;' there was a 'spot on the lower side about the size of half a dollar, which was of a reddish color.' Carpenter says 'the coats of the stomach both externally and internally were in a healthly state.' Burgess says 'they examined the stomach and found nothing unnatural.' Clarke says nothing about it. Whose statement of facts we are to receive, and what must be the effect of such a medley of discordance on the minds of the jury, will be determined we hope on the trial. It is quite impossible for us to reconcile these different versions of a plain matter of fact, or to account satisfactorily for their origin, especially since a note book was kept during the examination, and no entry made without the unanimous voice of the gentlemen present. We should like to see that note book.

As it respects the condition of the bowels, all agree in representing them as distended with wind, but beyond that all unanimity disappears as remarkably and as strangely as in the case of the stomach. James finishes his notice of them with the mention of their inflation. Carpenter says, they were 'otherwise natural.' Burgess says, 'the vessels round the bowels were gorged with blood,' and again, that the 'bowels were in a state of inflammation.' Clarke says, merely, that the inflation was the 'result of inflammation.' Those of our readers who are acquainted with the latest writers on Enteritis, may be charitable enough perhaps, to consider the difficulty of distinguishing true from apparent inflammation, a sufficient apology for the difference of opinion manifested on this examination. We strongly fear, however, that our doctors would hardly understand the grounds of so much indulgence, and if they did, it would be altogether misplaced; for, as if aware of the difficulty in question, they shrewdly determined to avoid it entirely, and judge of the state of the intestines, merely by feeling and looking at them. Seriously, did these physicians imagine, that the state of the mucous membrane of the bowels could be discerned through the other coats without making a single opening into the intestinal canal? Such a transparency as this would require, we have never encountered ourselves, though we do not doubt that pretty high authority might be found for a practical belief in the fact. Or, to fly to the other horn of the dilemma, were they unacquainted with such a thing as the mucous membrane of the bowels, and was its inflammation a disease unknown to their nosology? If this were the case, then, the inflammation spoken of by Burgess, was peritonitis, yet no distinct mention of the serous coat being inflamed, is made by either of the other physicians; but on the contrary, Carpenter says, it was 'otherwise natural.' As to the cause of this singular contradiction touching appearances which were before the eyes of them all, few we suspect will entertain a single doubt. We do not choose to mention it here, for our language might not be becoming the pages of this journal; we leave it therefore as we found it.

It appears from the evidence, that about a fortnight and one day before her death, she jumped from a chaise while riding to church, and twenty days before her death, she fell down the cellar stairs. The opinions of the physicians were of course required, touching the effects which these events would have in producing the post-mortem appearances. Clarke very justly says, that a fall would be more likely to produce abortion than inflammation of the bowels; that though the wounds would produce inflammation, they would not necessarily produce abortion, and that the inflammation would be more likely to produce death than abortion. Burgess says, that a violent fall would produce an inflammation of the bowels, or extravasation of blood. Carpenter will not say, 'positively,' that the wounds caused the inflammation. For our part we can see hardly the shadow of a reason for supposing that the falls had anything to do with the tragical end of this young woman. On the Friday before her death, which happened the next Monday, she went below and ate breakfast, complaining only of a cough and sore throat, which she had had some time before. This indisposition, which she had been suffering for some time, was not so severe as to prevent her from being about the house, and engaging more or less in the household duties; and it was not till two or three days before her death, that she became seriously ill. The effects of a fall were not very likely to lie dormant for two or three weeks, and then burst forth suddenly and destroy the patient in as many days. If on the contrary, numerous wounds were found in the uterus, and coagulated blood in the neighborhood, and no previous sickness to indicate the injurious effects of a fall, what stronger evidence can we have, that the wounds, and the wounds only, produced the bleeding, the inflammation, and death.

Here our remarks on the testimony of the examining physicians must close, and we wish that our duty ended with them. But we have another leaf to turn over, in this chapter of professional blunder and ignorance. It appears that Dr Siah Fuller, of Plainfield, was brought forward for the purpose of giving his opinion on the medical evidence as he had heard it in court, and consequently we infer, that he is a man of repute in his neighborhood, and looked up to on uncommon occasions. His testimony opens with a flourish of trumpets, the like of which for asinine tones, was never before heard, we will venture to say, since the world began. In despair of doing it full justice in any terms of ours, we must adopt the Doctor's own language, to present it in all its force and vividness. A woman 'had been sick, and had physicians with her for four days; the child was dead, and had been so long dead, it was difficult to be in the room; after consulting with the attending physician, Dr Waldo Hutchins, came to this point, to make, and did make an opening in the head of the child, and introduced an instrument called a blunt hook; began moderately to extract the child, but finally applied all my strength, and could not move it at all; then placed a man behind the woman, who clasped her, and a man behind him clasped in the same manner, and Dr Hutchins and myself laid out all our strength, but without success; the child was then taken by dissection.' We wonder why he had not attached to the woman a couple of horses, so as to pull in opposite directions, and a man by each with a whip in his hand to lash them to their utmost exertions. At any rate, it may answer as a hint for future occasions; and, by the way, if the patient object to the horses, we hereby suggest that the dislocation pulleys would be an admirable substitute.* And what possible relation can this case have with the

* We once heard a physician speaking in strong terms of the great force that was required to accomplish the operation of turning, and to illustrate his remarks he mentioned a case of his father's, where so much resistance was experienced to the passage of the hand into the uterus, that the patient was carried from the bottom to the top of the bed on his hand, solely by the force he was obliged to use in order to introduce it! This was boasted of as a remarkable triumph of skill and resolution.

death and post-mortem examination of Sally Burdick, is a query, no doubt, that has already passed through the mind of our readers; and we hope they will believe us, when we solemnly aver that to the best of our knowledge, it seems to be related for the purpose of showing that the discoloration on the sides and body of the deceased, might be produced or occasioned by other means than external violence, because after this woman who was the subject of this obstetrical experiment recovered, she made no complaint of soreness in her sides. He thinks the clotted blood might have been occasioned by a fall; that wounds inflicted on the womb sufficient to produce death almost invariably produce abortion; that he 'cannot account on any theory' how the wound could be fatal without procuring abortion; and finally that the symptoms described by the attending physician, were symptoms of inflammation of the bowels. If these opinions are the result of Dr Fuller's experience, (for they certainly were not derived from books) he has seen more strange things in his day, than falls to the lot of most practitioners. This however will not deter us from a particular examination of these propositions.

That the coagulated blood was not produced by a fall, we have reasons for believing, as numerous and strong as can well be imagined. The fall over the cellar stairs is represented to have been at least twenty days before her death, so that if a blood vessel had been ruptured then, the symptoms would have been urgent and immediate, and not a fortnight and over in developing themselves. This is so abundantly proved by the history of all such cases—and surgery is full of them—that we should be doing injustice to the capacities of our readers to dwell any longer on this point. If he had contented himself with saying, that falls or blows sufficient to produce death, frequently produce abortion, we should not be inclined to dissent; but that the same is equally true in case of wounds, we pronounce to be a position entirely unsustained by facts. Wounds of the uterus, unconnected with any other injury or disturbance, have little, if any tendency, to excite the parturient efforts of that organ, so far as we can judge from the little information we possess in regard to such injuries. That wounds can be fatal, too, without producing abortion, we have the testimony of experience, and we do not think we shall reject it because Dr Siah Fuller, of Plainfield, has no 'theory' whereby he can account for it. For his particular edification then, we will mention, that wounds of the abdomen have ever been considered highly dangerous, because the injury thus done to the peritoneum, gives rise to peritoneal inflammation, which runs its course in a very few days. The fatal termination of the operation for strangulated hernia, of lithotomy, and of other operations where the abdominal cavity is opened, is unanimously attributed for the most part to the injury done to the peritoneum, and the consequent peritoneal inflammation; and everybody knows that these cases are soon over. And thus, too, is very readily explained the fact, why the symptoms related by the physician were symptoms of inflammation of the bowels, though in truth, so far as they are related, they were equally indicative of inflammation of the womb.* Here, the wounds proved fatal to the patient in consequence of the peritoneal inflammation which they excited, and which was likewise hurried to its termination by the immense quantity of extravasated blood acting as a constant source of irritation. That the wounds were found in the uterus, even Dr Siah Fuller, we presume, will not deny, though he may be unable on 'any theory' to account for the manner in which they were made; and can he or any one else be given over to such egregious stupidity, as to imagine that seven wounds, two and a half inches long, could be made in the walls of the impregnated uterus, and no hemorrhage follow? And what man that has ever turned over the pages of a medical book with his eyes open, does not know that such extensive laceration of any organ is dangerous in the highest degree, by the violent inflammation it excites, to say nothing of the irritation to the neighboring organs necessarily produced by the extravasated blood. Yet here comes forward a man, who 'cannot account on any theory' for the mortality of the wounds, and seems inclined to consider them quite innocuous, trivial affairs. But we trust we have pursued this disagreeable detail of professional ignorance and absurdity far enough to answer the purpose we had in view, and which we would again distinctly impress on the minds of the younger members of the profession. We shall have performed an unprofitable task in exposing the errors of individuals, if it have not led our readers to inquire as to the radical cause of these errors and the means of prevention.

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* These symptoms, as related by Dr Carpenter, who attended her in her sickness, a couple of days before she died, were, general pain in the abdomen, obstinate constipation, soreness, frequent sickness at stomach, vomiting, prostration of strength, quick pulse and fever, thirst, tongue coated white and rather dry to the touch.

The truth is, that medical jurisprudence is too much neglected in this country, and while this neglect continues, errors as unpardonable, though perhaps not quite so gross, will be frequently occurring. Though involving questions of the deepest interest both to the physician and lawyer, it must be confessed that it has received but little attention from either. It is nominally taught indeed, in most of our medical colleges, but its instruction, being generally committed to a professor who has other duties assigned to him, which, being considered more important, require the chief portion of his time, is very limited and very superficial. In the student's final examination, not a question is asked him concerning it, and he goes through life, and even gives his testimony in Courts of Justice, on cases of the highest moment, without ever having looked into a book on the subject, or being at all aware of the nature of the discussions it embraces. The physician should bear in mind that he is liable at any time to be called upon to give his testimony in a Court of Justice, which alone may decide the life or death of a fellow-creature; and impressed with the high responsibility of such a situation, he should prepare himself for it by a proper attention to this department of his profession. To him who is accustomed to see with composure the victims of his ignorance falling around him, this may seem idle advice; but let interest remind him; that though he may conceal his quackery from his patients, and run his course with even a certain measure of eclat; yet that opinions given in evidence upon such occasions, may meet the eyes of his professional brethren, who, he may be assured, will not spare him. By means of a good popular address and an unshaken confidence in himself, almost any blockhead may get a run of practice, and be the oracle of the neighborhood; but the intelligent, high-minded physician is well aware, that physicians alone can judge of his qualifications, and that it is with them only, that a true solid reputation can be established. Accordingly, when called upon for his testimony by the ministers of justice, he will rejoice in the opportunity thus offered him, of appearing directly before the public, and subjecting himself to the rigid scrutiny of those who are capable of appreciating his merits. It is strange, therefore, that physicians should be so deficient in a branch of their science, which gives them the best chance in the world, of distinguishing themselves either to their credit or their shame.

Are we asked, how the study of medical jurisprudence is to be begun, we answer, by obtaining in the first place a practical knowledge of anatomy, without which all the reading of books and lectures, will be as profitless as nursery tales. What stupidity can imagine for a moment that a person can distinguish morbid from healthy structure, who has not observed the latter again and again, and is perfectly familiar with its appearance? How often do people undertake to examine a body, who plainly evince through the whole process, that they cannot distinguish correctly between the sound and diseased structure, calling appearances healthy which are evidently diseased, and mistaking the effects of disease for the natural condition of the parts. It needs no uncommon discernment to perceive how much value the ideas of such people can possess, on the nature of disease. We know there are difficulties in the way of obtaining this knowledge, but if any one imagines there are no difficulties to be encountered in the pursuit of medical science, we advise him to rectify his notions forthwith, or set himself down as utterly incapable of making any solid acquirements.

Physicians might furnish themselves with much anatomical knowledge, by examining the bodies of those who die under their care, whenever it is practicable. But we may be told, that the friends will not often consent, and that it is generally as difficult to examine a body, as to dissect it thoroughly at leisure. This may be so, but we believe that whenever such a state of things exists, it is the fault of the physician, if it continue long; for we have never known well directed efforts to obtain post-mortem examinations, to be altogether unsuccessful, or fail of doing away, to a great extent, that repugnance to the practice, so much complained of. On the contrary, we do know that in many places where such feelings exist, physicians would not take the trouble to examine bodies, if the privilege were given them. When we hear from one of the physicians, whose testimony we have been reviewing, that in the course of twelve years' practice, he has examined but one dead body; and from another, that he has examined but two, one of which was as far back as the battle of Bridgewater, what else could we expect to find in their evidence but confusion and contradiction?

We cannot close this paper without reprobating in the strongest terms the idea, too common we fear, that in the examination of a dead body for judicial, or, in fact, for any other purposes, the only object is to find out something that may fairly be considered an adequate cause of death. The business of the physician on such occasions is of a far different kind;-

it is to observe and be able to relate all the morbid appearances that can be found by diligent and thorough investigation, for he is directed to this duty, not merely for the purpose of satisfying himself, but of satisfying others; and this can only be done by stating faithfully and minutely the condition of every organ in the body, as far as he has time and opportunity to examine them.

ART. IV.—EDITORIAL CORRESPONDENCE.

MY DEAR F. MILAN, Nov. 1832.

A RIDE over the narrow riband of alluvial land which constitutes the valley of the Rhone, convinces the most sceptical of the operation of physical causes in producing the most remarkable and important changes in human organization. As you advance from the Lake of Geneva to the foot of the Simplon, the stature and the countenance of the human race deteriorate, till you are presented with an idiotic cretin, at least a foot shorter than the average stature of the human race, and in intellect and appearance more nearly allied to the simia than to more intelligent bipeds. The Goitre too is seen projecting from the windpipes of many of the inhabitants, especially the females. I examined a considerable number of these tumours. The sensation they give to the touch is that of a number of hard, round bodies, of the size of horse-chestnuts, tied up in a bladder of water, or of fluid rather more dense than water. There seems to be no reason to doubt the commonly received opinion, that this disease is produced by drinking the water of the mountain streams. This is strongly confirmed by the history of the disease, as it has appeared in the valley of the Mohawk and other places in our country. According to Dr Coventry, when the inhabitants of these regions have sunk their wells through the superficial strata of limestone and schistus, and cease to use the water of the rivulets, they have no longer been affected with goitre. The countenances of the inhabitants of the Vallais have a most remarkable expression from the peculiarity of their eyes. These are *very large*, dark, with long, dark eyelashes, and set very widely apart in the head, with a beseeching sort of expression, which is very painful.

The grand hospital of Milan is one of the most extensive and most interesting of Europe. It was founded in the 15th century, and has been endowed from time to time with immense bequests and donations. It is now a little world in itself; and besides 2000 beds for the sick, there are contained within the limits of the hospital grounds, which are in one of the most beautiful parts of the city, upon the canal, a mill to grind their corn, a slaughter-house, bake-house, storehouses, and laboratories, with extensive kitchens and apothecaries' shops. There are fifteen or twenty huge boilers, for infusions and decoctions; several others for soup and ptisans; presses for oil of almonds and castor oil; and everything else upon a great scale, which well entitles it to the name of Spedale Maggiore. The architecture is irregular, the hospital having been enlarged from time to time. It now includes nine spacious squares or courts, around which the buildings extend, having a colonnade of granite pillars to each, constituting a fine covered walk. This hospital is peculiarly interesting to the medical student, as it affords him an opportunity of seeing several diseases peculiar to the plains of Lombardy, especially Pellagra. In the rear of the great hospital and under the control of the same government is the foundling, and lying-in hospital. Nearly 4000 infants are annually received at this institution, one half of which are *enfans trouvés*, and are received by means of a cylinder of sheet iron, which turns on a pivot in the wall, and is accessible from the street. When it is turned, it rings a bell which gives notice of the arrival of a new comer. There were three infants left on the morning of my first visit. About four hundred births occur annually at this hospital. The principal part of the children are provided with nurses in the country, who generally come to the hospital and apply for the children, for the care of which they receive a small stipend. The prevalence of a scrofulous diathesis in Lombardy is strongly marked, and distortions of the bones are at all times to be seen in the streets. The professor of obstetrics in the institution above mentioned, informed me that distorted spines and pelvises, among the women delivered at this hospital, were extremely common. He had himself performed the cesarean operation five times, twice with success. He showed me his pathological cabinet, which contained what our friend ——— would call a glorious collection of distorted pelvises, in several of which the transverse diameter is less than two inches. A *lit de misere*, something like a fracture bed, was used for all the instrumental cases. I saw here a great collection of obstetrical instruments. The forceps were all of the long handled French form. The pelvimeter of Madame Boivin was considered a very useful instrument. Scales for weighing the new-born infant, and a measuring rod for its dimensions were in constant use.

Among the curiosities of the pathological cabinet was a preparation exhibiting an extra-uterine conception. The fœtus was at about three months, and well formed. The placenta was attached to the inner surface of the left ovary, in which the membranes were seen. The fallopian tubes were pervious. The uterus, cut open, exhibited its natural size and appearance. There was also a fœtus of the size of the full period of gestation, wanting a head, neck and heart.

In the wards of the foundling hospital I had the pleasure to meet the venerable Dr Sacco, the chief of this department, a fine, hale old man, of more than threescore and ten. He has done more than any other man towards introducing vaccination into Italy, and is the friend and correspondent of Jenner so frequently mentioned in Baron's life of that great English philanthropist. He informed me that he was about promulgating a plan for uniting the faculty throughout the world in a scheme to introduce general vaccination. He vaccinates at two days old, and prefers to use the virus of a vesicle from seven to eight days old. He does not believe that the protecting power of the vaccine is extinguished in advanced life, or that it is less powerful for being introduced in the earliest period of life. This notion, by the way, that infants vaccinated at a very early age are not as much protected as when vaccinated later, has done much towards retarding general vaccination in our country. There is no time when vaccination can be so conveniently attended to, as during the week's attendance of the accoucheur. Dr Sacco observes that goitre never shows itself at a very early age. It is generally developed at from seven to ten years of age. The wards of the great hospital exhibit a great number of pulmonary diseases. This might be expected from the effects of the cold, damp and foggy character of a Milanese winter. The Italian treatment of inflammatory affections of the respiratory organs is sufficiently active. Frequent general bleedings, not so large as in general with us, averaging for an adult about twelve ounces, and the use of tartrite of antimony in large doses, and frequently at the same time as much digitalis as the system will bear. In the treatment of syphiles they use an antiphlogistic treatment, and small doses of calomel not carried to the extent of salivation. Secondary symptoms are said to be uncommon.

Notwithstanding the frequency of pulmonary diseases in this hospital, I could not find that auscultation was ever employed in the investigation of them, or that the works of Laennec and Louis had attracted any degree of attention. The use of some of the most active purgative medicines, as elaterium and croton oil, which have become almost indispensable among us in the treatment of dropsies, was apparently unknown. * * * This is not the season to see pellagra in perfection. Its local symptoms are best observed in the spring, but there are many cases now in the hospital exhibiting its consequences. This horrible disease begins by an erysipelatous eruption on the backs of the hands and feet which at last produces on the skin a scurfy, dirty appearance, somewhat resembling icthyosis. This begins in the spring, continues during the warm weather, and disappears after winter has become established. But the blow once struck, the victim almost never escapes. The general health is prostrated at the outset of the disease, and does not become reestablished during the disappearance of the cutaneous affection. There is headache, langour, intestinal weakness, and distress, and a multitude of nervous symptoms, affecting body and mind. The disease with certainty recommences every spring, and the shock to the system is every year more severe, till at length the skin seems almost as if it were scorched in the fire, and the patient is worn out with diarrhœa, ulcerations of the mucous membrane, convulsions, tetanus, wasting of the flesh and dropsy. The thirst is often most excessive, and the frantic sufferers will sometimes leap into the water and drown, so great is their eagerness for drink. This disease, I believe, is confined to the flat and fertile plains of Lombardy, and it is difficult to assign a more probable remote cause for it than the malaria of rice fields, and the poor living of the peasantry, causes which are strongly insisted upon by Johnson and other medical travellers.

This city contains many of the most distinguished physicians of Italy. Among them is the promulgator of the contra-stimulant theory, which is in great vogue throughout Italy. He is a very courteous, lively man, of great energy and industry, and is now preparing a new work upon inflammation. He pursues the contra-stimulant plan in all acute inflammations, and assures me that he has now a patient with hæmoptisis, who has been repeatedly bled, and who is daily taking 20 grains of emetic tartar — Like many of the profession in Italy, he is a zealous liberalist, and has been so obnoxious a republican that since the imperial dynasty, he has endured three years imprisonment for political opinions. He is still undaunted, and legitimacy and priestcraft find no favor in his eyes, but experience from him the boldest denunciation.

P.

ART. V. — CASE OF EXTRA-UTERINE FÆTATION.

[The gentleman to whom the following letter was addressed, suggests, that it is due to the writer, to mention that it is an extract from private correspondence, and not prepared with a view to publication. While we agree with that gentleman in the opinion that it is too interesting a communication to be withheld from the profession, and thank him for permitting us to present it to them, he will permit us to say, that it is very far from needing any remark whatever, by way of apology, either for itself, or in behalf of its author. ED.]

DEAR SIR, —

AGREEABLY to your request, and after a long delay, I herewith transmit a concise account of the case of extra-uterine pregnancy, which fell under my notice in August last. It is proper for me here to state that I was not called to this case till near its termination, and of course some of the facts are related to me by the attendant.

I saw the person who is the subject of this notice on Saturday morning, August 15th. The account which was given to me at the time, was as follows. The patient was taken sick the Thursday morning previous, exhibiting nothing unusual from an ordinary labor, for an hour or two. Dr Cole, the family physician, was called in at the early stage of the labor, and took charge of the case. He states that on the first examination, the presentation was high and out of the reach of the ordinary taxis.

During the first examination, however, a violent expulsive effort brought the left hand into the vagina. This sudden and unexpected change led him to vary the position of the patient, from her side, to that of a half recumbent position upon her back. During this time, the arm was brought fully and forcibly down into the vagina; and if I understood him, he was unable to return the arm, or to make any advances in turning the child, so as to deliver by the feet. Dr Tyler of Lanesboro' was now sent for but did not arrive till evening.

Not to be particular in the details, I shall merely say, that after eight or ten hours had been spent in fruitless efforts to turn the child, the woman became exhausted, and the case was given up as hopeless.

Under the use of cordials and a light nourishment, on Friday evening the patient seemed to revive from that state of extreme prostration under which she had been for hours. This excited hope on the part of the friends, that something might yet be done to save the patient, from immediate death. It was at this time, that I was requested to visit her. I did not however, see her till the morning, as the distance from Cheshire to Williamstown, is sixteen miles. I found her able to converse in a low tone of voice, but respiration even by this effort, was considerally accelerated. The pulse was frequent and rather weak. The patient was now removed to another bed, and placed in the usual recumbent position. She had had no labor pains since the exhaustion came on. I found on examination, the left hand in the upper part of the vagina, it could be passed upward rather freely and easily; but to attempt to pass my hand by that of the child produced much distress and inquietude, but no expulsive effort. I persevered in my attempts to gain the feet of the child for half an hour, but desisted from the necessity of the case, as she was sinking rapidly with every effort made to deliver her. Her pulse even for a time ceased at the wrist. After this she continued to sink, and expired at 5 o'clock Saturday morning.

It is certainly remarkable that the labor pains were so perfectly similar to those in ordinary cases of labor; though the expulsive efforts were evidently confined to the diaphragm and abdominal muscles.

An examination was made at the request of the friends, which resulted in the following discoveries.

1. The child was situated in the abdomen, with its head in the right illiac region; and the face looking upwards. The left arm was still in the vagina, and the feet turned up towards, and nearly in contact with, the stomach. 2d, An opening (ulcerated?) existed in the vagina, large enough to admit the hand. 3d, The placenta was attached to the sigmoid flexure of the colon. 4th, The fœtus was covered with a thin mem-

brane, appearing now, however, only in patches. 5th. The uterus was five inches in diameter across the fundus, and was an inch and a quarter thick. The sympathies which were excited by pregnancy, probably thickened the organ instead of expanding it. 6th, The fœtus was in a semi-putrid state. 7th, The intestines were dark and livid, at several different points.

During the last weeks of pregnancy, the patient complained much of soreness of the abdomen, and was extremely restless, especially in a recumbent posture. Sickness at the stomach was extremely troublesome for the last three months. It would seem that cases of extra-uterine pregnancy might be known by an examination through the parietes of the abdomen; the limbs of the fœtus would be somewhat distinct, and easily traced from the thickness of the covering. This case is certainly interesting in many points of view, and unquestionably illustrates some of the phenomena of gestation.

Permit me to annex a remark or two, to this case, on the management of arm presentations. The difficulty to be overcome is the contraction of the uterus. Now it is well understood, that the only effectual remedy we have for suspending the action of the uterus, is opium. But it has appeared to me from the relation of cases by other physicians, and from my own experience, that the quantity of opium employed has been much too small. To corroborate this opinion, I will state that in *four* cases which have fallen into my hands, to manage entirely alone, I have given immediately after knowing the nature of the case, a table-spoonful of the saturated tincture of opium, and have repeated the dose in half an hour, if the pains did not sensibly lose their force. The cases of which I now speak, I did not see till the powers of the uterus were fully called forth, and the waters discharged. At an earlier stage, or previous to the evacuation of the liquor amnii, less laudanum might answer. In each of these cases, I was able to turn and deliver the child in less than an hour, and in every case, the woman recovered in the usual time. From my own experience and observation, I should say, if laudanum is administered in doses sufficient to meet the exigencies of the case, that under skilful management little danger is to be apprehended. We ought in no case to wait for the spontaneous evolution, or in other words, I cannot now imagine a case, where it would be proper to wait and trust to the efforts of Nature for relief.

Yours, truly,

Ebenezer Emmons.

Williamstown, June 8th, 1833.

ART. VI. — FATAL EMPIRICISM.

[The following account was furnished by Dr Wing, the physician of the gentleman whose sudden and tragical death is the subject of it.

We regret that he did not add such comments as the case deserves, on account of its pathological interest; and such as are suggested alike by the mischievous presumption of the operator, and the too ready and often fatal credulity of the sick.

But the case, as it is reported, covers all the unoccupied space in the present number, to the exclusion of some articles of intelligence to which we had appropriated these pages.

Our readers will therefore bear in mind the facts of the case as here stated, and we shall ask their attention to a few remarks upon them in the next number. E.]

MR. J. E. HINCKLEY, the subject of the following statement, presented himself for medical treatment, Feb. 5, 1833. For a few days previous, he had raised blood—the whole amount estimated at about one pint. He was laboring under slight cough; raising sometimes dark clots of blood; at others, mucus streaked with *florid* blood; dull pain in the left side of the chest. His pulse numbered about 80 in a minute, hard and full. He was bled, purged gently, and light diet ordered. These unpleasant symptoms gradually abated; and on the 14th he was enabled to resume his ordinary business — that of superintending an extensive printing establishment.

On the 30th of March he again solicited medical advice. His pulse ranged from 85 to 100 in a minute, respiration short and laborious, dull pain in the chest, occasionally changing its location, cough frequent, and expectorating mucus, mixed with purulent or tuberculous matter, pain in the head, loss of appetite, considerable thirst. — He was relieved of the latter symptoms after the exhibition of a gentle cathartic, and free indulgence in mucilaginous drinks. His pulmonary difficulties were palliated by ordinary expectorants and the application of repeated small blisters to his chest; but not essentially changed in their character. His condition, however, on the 25th of April, was such as to admit of his gratifying his desire of visiting his native place, Lebanon, in Connecticut; hoping that the journey, together with a milk diet, and a removal from the prevailing east winds, might be serviceable to him. He returned to this place on the 2d of June, having travelled about 40 miles on that day, and on the day previous, a somewhat greater distance. I met him on the 3d, and found his general symptoms similar in character to those under which he labored when he left Boston on the 25th April. In the course of conversation, I learned that he was inclined to submit himself to the treatment of an empiric. My objections were frankly made to the miserable routine that is generally adopted by such persons.

On the 4th, about 2, P. M. I was informed that he was in the hands of one Benj. Thompson, who had commenced his 'course of medicine' upon him about 6, A. M., and that it had produced alarming symptoms. I hastened to the residence of the said Thompson, where I found Mr Hinckley already dead. — The body was removed to his residence at 6, P. M. During the removal the head became the most depending part. It was, four hours after death, examined by Drs Hale, Homans, Stevenson, and McKean.

External appearances: emaciation very slight; face turgid with blood, in obedience to the laws of gravitation; bloody fluid escaping from the mouth and nose; sound of the chest on percussion flat below the clavicles, especially on the right side; abdomen tense and resonant.

Head. Brain rather firm; red points numerous in the medullary substance of the cerebrum, and uncommonly large in the cerebellum. The ventricles contained no water, but an uncommon quantity was apparent at the base of the brain. In other respects healthy.

Thorax. A large quantity of fluid blood followed the knife from the skin and muscles. On raising the sternum and cartilages of the ribs, the diaphragm was found pressed up above the fourth rib. Lungs did not collapse. Extensive adhesion of the pleura on both sides, but stronger and more general on the right, where the diaphragm was also adherent as high as the fifth rib. The lungs EXCESSIVELY engorged with blood, a portion of the upper part of the right lung hepatized and containing, at its apex, a cavity as large as a pigeon's egg, partly filled with tuberculous matter. The upper and middle lobes contained masses of tubercles, more advanced in the former. The latter was intermixed with sound portions. Upper lobe of the left lung contained a large quantity of frothy blood. Incipient tubercles very numerous, most advanced in the lower portion. Lower lobe free from tubercles and crepitant. Heart not diseased, flabby, but of natural size.

Abdomen. Much fat about the broad ligament of the liver, and considerable in the omentum. Stomach much distended with air, measuring about fourteen inches in length and six in breadth, depressing the arch of the contracted colon to a line with the umbilicus, and elevating the diaphragm. External surface more vascular than natural. It contained about a pint of greenish brown fluid, with which the large curvature was stained. The mucous membrane was very vascular and injected, and covered with a thick coat of mucus, which was easily removed; mucous follicules, at the pyloric orifice, large. The duodenum contained a large quantity of fluid similar to that found in the stomach, together with a cream-like substance adhering to its mucous surface, which surface, when cleansed was found highly injected. Appearances of ilium somewhat similar and containing a large quantity of white mucous, which extended throughout the large intestines. In the cœcum, within a few inches of the valve, were found numerous but distinct ulcerations, about the size of a pea.

Liver, healthy in size and appearance. Gall bladder moderately distended, with dark brown bile. Spleen, healthy.

COLLECTANEA.

PREPARATION OF CHLORINE IN SCARLET FEVER.

To the Editor of the Lancet—

SIR,—Having just read Dr Alexander's second paper in your valuable hebdomadary for February 23rd, with much interest, I beg to mention, with all due deference to Dr Alexander, that in the typhoid form of scarlatina, where the Doctor points out the necessity of 'bark, wine, and various tonics,' I have lately, in addition to the above remedies, prescribed, with astonishing benefit, the following preparations of chlorine:—

℞. Potassæ oxymur. ʒ ij.
Acidi muriatici;
Aq. dist. aa ℥ ij; solve, ut ft. mistura, cujus capiat Pharmacopula quantitatem infra dictum, ad misturam sumendum.

℞. Misturæ ut supra, ʒ ij;
Aq. distillatæ
vel
Alius aq. dist. ℥ vj. Ft. mist. cujus capiat partem 4tam, 4ta quaq. horâ.

If the term 'specific' may be allowed in the nomenclature of 'licensed practitioners,' this medicine may claim it. I have also administered this medicine per anum, and by its powerful disinfecting properties, have found it cleanse the bowels from the putrescent diarrhœal discharges so irritating and distressing to the patient.

As I have no wish to arrogate to myself the credit of this discovery, I beg leave to state, that some years ago it was brought to my notice by Mr Brown, an intelligent practitioner at Lewisham in Kent; therefore, 'Palmam qui meruit ferat.' My object in bringing the fact before the medical public is, that my professional brethren may give it a trial, and, if successfully, their meed of praise.

I have the honor to be, Sir, yours very respectfully,

JAMES BRIGHT.

Brighton Feb. 26th, 1833.

BIRTHS IN ARM-PRESENTATIONS, WITHOUT TURNING. LONDON MEDICAL SOCIETY.

Some financial reports were first discussed in private, and then, before visitors, a few words passed respecting the late living hydatids, but nothing new was elicited. Subsequently,

Mr Proctor referred to the subject of Dr Hendley's Waterford case, and inquired whether any difficulty was felt in turning the mutilated child, the right arm being gone. He had once himself had a case where the woman had been in labor fortyeight hours, without having the aid of a medical man, the arm having presented. Finding that he had no chance of turning the child, he sent home for a blunt hook, but in the mean time the woman acquired confidence, from now having an accoucheur unexpectedly by her side, and the child was born, before the man came back, by the efforts of nature, the arm foremost.

Dr Hendley said he had great difficulty in turning in his case. The fourth day since the arm first presented had arrived, and the woman was almost in an *articulo mortis*. He was occupied for four hours in the task, for the woman's pain and screaming, whenever he introduced his hand, were extreme. He succeeded at last, however, in the ordinary way, and the mother soon afterwards died. He thought the amputation unjustifiable, because, for the two days previous to that preceding, the child was, according to the attendants, alive, and frequently moved its arm.

Mr Stephens mentioned a case of arm-presentation, wherein the efforts of the uterus, assisted by his own tractions at the protruding member, accomplished the birth of the child without turning. The head came down crushed, the sutures collapsed, and lying doubled partly on the breast and shoulder, the cranium and scapula giving way to the parturient efforts. One arm came with it, the other lay back in the uterus. He had repeatedly tried to return the arm, but found that instead of being able to do so, the protrusion became greater, until nature herself at last accomplished the birth.

Dr Ryan expressed great surprise at this birth, conceiving it to be impossible. He would never think of attempting to procure such a delivery. He would first try to turn, by reducing the muscular power with opium and the lancet, and, subsequently, nauseating the system with tartarised antimony. If these were used without avail, then he would deviscerate the thorax, and decapitate — the infant of course being dead. As to the Irish case, a jury would, most probably, set down the death of the mother and infant as 'misadventure.' Spontaneous evolution was so rare, that there were few men who ever knew of such an event. What became of the brain in Mr Stephens' case ?

Mr Proctor. In my case, all the bones of the cranium seemed smashed, and the head felt like a bag of pease-pudding, hanging to the body. The woman was strong, and had a good pelvis, and the fœtus passed out as though it came down a sink-hole — slap, — taking me by surprise.

Dr Ryan. Would Mr Proctor recommend this practice?

Mr Proctor. I had no other remedy. I would attempt to turn as soon as ever I found the arm presenting, in the face of all the opium, lancets, or tartarised antimony, in the world. I would have no waiting. Had this been a *lady*, she would certainly have died. A London lady would have sunk at such a labor. It was the woman's sudden confidence at my unexpected appearance, that procured the delivery in the manner stated.

Mr Burt. I also would turn early. It is for such a purpose as that, that a medical man's attendance is needed in the lying-in room.

Dr Waller had lately removed the arm in a case where a long period had elapsed from its presentation. First, the friends had to send three miles for a medical man, but he could not turn. Then four miles for another, and he could not turn. Then twelve miles for him (Dr Waller), and, of course, when so long a time had elapsed, neither could he turn. Opium had already been given, and bleeding was impracticable; the system was too low already. So he resorted to instruments, and got away such pieces as he could, — first the arm, and then, having introduced the perforator and failed to get in his hand and seize the foot, he opened the chest and abdomen, and extracted as much as possible. He next turned the fœtus, and then got the remainder away. Yet after all this the female appeared to be very well, he having waited two hours in the middle of the extractive process, to give her time to recover a little. He then ordered a drachm of tinct. opii, to be given in an hour, and another in two hours, and she went on favorably. But on the tenth day a shivering and pain in the head came on, which became irregularly intermittent, once in three or four hours, for which he gave her quinine in very large doses, but fruitlessly, for the fever assumed the typhoid form, and she died. Dr Blundell told him lately that he had had three such cases, and that they all did well. He removed the arm in his own case, in order to get more room for his operations.

Mr Diamond considered patience to be a great virtue in midwifery. He had a case where the arm presented, and the head was doubled on the trunk. Turning and delivery were each impossible, so he waited, and at length the fœtus came away of itself.

Mr Stephens accounted for the delivery in such cases, by saying that the efforts of the uterus would crush and diminish the child, if dead, and make it plastic for delivery, though it would not break down the substance of a living child.

Time here cut short the discourse, and the meeting separated.
Lancet.

CLINICAL REMARKS ON THE LATE CASE OF GLANDERS IN MAN.

[*Case in St Thomas Hospital, reported by Mr Youatt, Veterinary Surgeon.*]

Dr Elliotson made this case the subject of a clinical lecture. In order that the students might be fully acquainted with all that was known respecting human glanders, he went largely into its history; but as the chief points of this are already to be found in the Doctor's paper in the *Medico-Chirurgical Transactions*, and in the review of it which appeared in the Lancet, it would be a waste of space to repeat them here. That his views on the present occasion, however, may be recorded, we shall give a brief outline of the whole lecture, adding, in full, those parts of it which have a greater claim to the title of novelty.

He commenced by describing 'contagion' as the communication of a disease which exists in one living system to another living system, whether the two systems be those of human beings, or those of brutes, or those of a human being and a brute. The term, he said, would also hold good as applied to the communication of disease between a vegetable and an animal, if such a contagion were possible, but of that he knew no instance. He then pointed out to the students the exact distinctions which exist between the words contagion and infection, describing them each as a quality which denotes communicable disease, but defining 'contagion' to be both that mode of communication which is palpable to the senses (as in the poison of syphilis), and that mode which is not (as in scarlatina), while 'infection' is applicable only to those modes of contagion which are not evident to the senses. Now, that the diseases of man are communicable to beasts, is a well established point. The measles, according to good authority, have been imparted to sheep, and a disease of the hair (trichoma), and the plague, have also each been communicated to brutes. Whether that is the case also with any other disease, is not well known. On the other hand, several diseases may be communicated from brutes to men, as the cow-pox by vaccination, the mange from dogs (in which case the disease in man assumes the appearance of itch), and also hydrophobia, the probability being, that in each case the disease may be given back again from man to the brute. The cow-pox certainly may, and Magendie has himself reproduced hydrophobia in a dog, by inoculation from the froth of a rabid man. To these instances may now be added glanders, a disease which must be ranked as one of the most readily communicable of them all, to be caught, however, only by contact with the diseased secretion from the mucous membrane of the nostrils in glandered animals, or the pus produced in the tumours on other parts. The glanders, according to the testimony of the first veterinarians, is not acquirable by any other mode, nor by infection.

Glanders consists of two external forms — first, in ulceration of the nostrils — and, secondly, in tumours arising in various parts of the body, combined with corded or elevated lines in the neighborhood of the tumours, formed of what is thought to be the absorbents. When the disease is limited to the former symptom, it is called 'glanders' — when to the latter 'farcy.' The two, however, are the same disease, though distinct in name, and from 'glanders' the affection will at length spread also to 'farcy.'

Glanders in the horse is both acute and chronic. It will sometimes continue for months, and at last kill the animal by the ulcerative process and its emaciating effects; or it will destroy life in a few days. The fact of its occurrence in man, was first established, or made highly probable, in this country, by Mr Coleman, and by two cases which came under the notice of Mr Travers, recorded in his work on 'Constitutional Irritation' as being very like cases of glanders, but described by him (as though glanders in man were not possible) as instances of a diseased state of the constitution. Mr Coleman had taken some of the glanderous matter from one of the men, and inoculated an ass with it. Glanders and farcy were the result, and death ensued in twelve days. Farther proof, moreover, was obtained, yet the facts were alluded to at the time by Mr Travers as a matter for wonder, that disease could be communicated from a man to a brute, and yet the disease in the brute not be the same as that which existed in the man.

It happened, however, in July 1829, that a patient was brought into St Thomas's Hospital whose case placed the fact of glanders in man in so strong a light, as to establish the existence of such a disease beyond all doubt — at any rate in Dr Elliotson's mind. From this time he regarded the points as established on incontrovertible ground; and now this new case has occurred, and made assurance doubly sure. (The learned lecturer here detailed the particulars of the present case, but as he stated nothing respecting its history or symptoms which is not already recorded in this Journal, we pass on. The patient's name was Jackson.)

With regard to the period of time during which any cases have been recorded as cases of glanders in the human being, it may be mentioned that, ten years since, two instances were recorded in Rust's German Journal, both of them ascribed by the narrators to contagion from glandered horses, the editor also himself stating it as his opinion that the assumption was correct. In these cases a minute account of all the post-mortem appearances was given, except those of the abdomen, in which respect the last autopsy at St Thomas's is the only complete one. In no other instance were the intestines examined. In the case last week all the viscera of the abdomen were healthy, except at about an inch below the ileo cæcal valve in the intestines, where, for the space of three inches, a number of small white granules, similar to those seen at the base of the glanderous chancres on the body, were found; and the mesenteric glands were slightly enlarged.

(The lecturer concluded with the following reflections, the justness of which is forcibly apparent) : —

A few words, Gentlemen, as to the sanitary application of the facts which are now so prominently before us. The subject is one of the highest public importance, and demands the serious consideration of those on whom the care of the public health devolves. The facts peremptorily behove all persons who have anything to do with glandered horses, instantly to destroy them, and in all cases to do so unless a cure be discovered for the disease, or some new mode of treatment be proposed. I am told by Mr Youatt and other veterinary gentlemen, that at least 49 out of every 50 glandered horses ultimately perish of the disease. Then why suffer animals so frightfully dangerous, to linger out the remainder of an existence which they pass so wretchedly, and run the chance of giving the disease to other animals and to man? With such evidence before us, every glandered horse in the kingdom ought to be killed forthwith, unless it is thought fit to institute some new investigation into the treatment of the disease. Nothing can be more wrong than to keep glandered horses alive for the little work which may, in spite of the debilitating effects of the disease, be forced from them. Let their owners but reflect for a moment on the multiplied opportunities which occur for contagion between these animals, — the innumerable occasions for smearing with the poisonous matter the various parts of the stable, — the risk of depositing it on the grass when turned out, — and, above all, of giving it to man, who must assuredly perish by it in the most dreadful manner, for no remedy is known for it. The effect is awful to me beyond anything that I ever witnessed in disease. Here we may have young men in all but perfect health one week,—after acute suffering, offensive discharges, and sores and putrefaction, corpses on the next. I thought when I had seen the fatal cholera that I had witnessed the acme of sudden suffering and death, but the man who is glandered presents a scene quite as heart-rending to our view, as the cholera patient.

ECSTACY.—ANIMAL MAGNETISM.

To-day we have to take into consideration some of the interesting circumstances connected with that singular state in which an occasional *anæthesia* is complicated with the modification of the nervous system to which the term 'ecstacy' has been applied. This state may either be spontaneous—that is, occurring independently of any external influence, or it may be produced in one individual in consequence of an influence exercised on him by another. How this influence is exercised, and what is its especial nature, are points to be separately and consecutively considered. I may anticipate so far as to state, however, that the hypotheses on this subject are of two principal kinds. According to the first, the influence is supposed to be exclusively moral,—simply the result of imagination strongly moved and worked on, and constituting another example of the boundless empire this intellectual faculty possesses over the grosser materials of all our corporeal organs. The second is a widely different doctrine. It supposes the effects induced, to depend on the agency of a subtle and peculiar fluid, or *magnetic* emanation; thus called from the pretended analogy or identity which it bears to the invisible and mysterious elements whence depends the existence of the phenomena of electricity and magnetic attraction.

In entering on the consideration of this much-debated, and, I must say, deeply-interesting topic, I have to recommend you to follow my example, in determining to separate *facts* from the *explanations* of facts; in endeavoring to ascertain, in the first place, what it is that is proved, and then seeking to unravel whatever mysteries that presents; and in remembering that a thing may not be the less true, because it is not included in the category of circumstances which the state of human science, or the extent of the limits of the human intellect, enables us to comprehend, and compels us to recognise. Dismissing then every theory and preconception, discarding the idea that the facts we seek are ever to be explained, we must seek the proofs of the facts themselves. These are of two descriptions, and are understood by the following queries: First—Can the state termed 'ecstacy' develop itself spontaneously? Secondly—Can it be produced in one individual by means of an influence of any description wrought on that individual by another person? You perceive that these questions may be examined exclusively of controversy or hypothesis, and that even their affirmative solution does not necessarily, and *a priori*, involve any startling, any unusual, doctrine.

With respect to the first of these questions, then, many facts are on record which permit no one to entertain the least doubt as to the possibility of the spontaneous occurrence of this state. It is unnecessary to cite more than one case, and that which I shall select is the better suited to my purpose, as it contains all the elements of authenticity, and has been observed by medical men of high skill and reputation. It was observed at the clinic of Bologna in Italy, and is published in the *Gazette Medicale* of Paris, of the 24th November 1832. The individual in question was a man aged 24, who, having previously enjoyed good health, suffered a violent moral emotion while witnessing the struggles of a female in an intense hysteric paroxysm. In a short time after, he himself was attacked with remarkable convulsive movements. These generally commenced in the morning, and lasted for different periods, sometimes for some hours at a time. During its accession, all external perceptions were abolished in the ordinary channels. The functions of organic life, too, were remarkably troubled. His respiration was impeded, the pulse slow, the extremities of icy coldness. In addition to these symptoms, something extraordinary was one day noticed. It was found that while he was utterly insensible to, and unconscious of, all sounds directed to the ear, he perceived them distinctly if directed to the pit of the stomach. To questions addressed there in the most inaudible whisper, he returned immediate replies. But of all that was spoken to his ear, he was perfectly ignorant. This singular phenomenon was witnessed by a great number of individuals. It recurred three times, after which the man was cured. This case then is by itself sufficient to prove the *fact* of the spontaneous development of a state in which the ordinary symptoms of anæthesia are combined with a peculiar modification of the nervous system, apparently rendering the patient susceptible of relation with the external world, by other than the ordinary channels of perception.

The first question then being resolved in the affirmative, let us turn to the second, namely, Can the state thus described be produced in one individual by any influence exercised by another? We must here again look for *facts*, postponing all discussion regarding their explanation, until the existence of the thing itself is either established or disproved.

In the inaugural thesis of M. Fillazzi, defended before our

Faculty of Medicine, there is the narrative of an occurrence bearing irresistible proofs of its authenticity, and which seems to me to be sufficient to decide the question. The facts are particularly curious. The author, then, an *internè* at the Hôtel Dieu, and totally sceptical regarding the powers attributed to this mysterious essence, this asserted magnetic fluid, formed, for mere amusement, the plan, with a brother *internè* equally incredulous, of submitting this friend to the manœuvres of the magnetizers in the manner M. Rostan describes. The 'passes' were continued for about twenty minutes without any remarkable effect, but at the expiration of that time the young man began to yawn, his eyelids grew heavy, and closed involuntarily; he attempted to shake off this torpor in vain; his respiration next became accelerated, his head fell on his shoulders, and he uttered a sardonic laugh of indescribable expression. 'We thought,' says the narrator, 'that he was amusing himself at our expense, but in a little, what was my horror when I saw his fingers turn blue, his head fall powerless forward, when I heard his respiration rattling like a dying man's, and felt his skin as cold as death itself. I cannot find words to describe my sufferings. I knew not what to do. Meanwhile all these horrid phenomena increased in intensity; I tremble at the recollection of what I saw; there lay my friend, my victim, devoid of the aspect of life, in a state of complete and terrible collapse. With his hand clasped in mine, in a state of agony no tongue could tell of, I laid him on a bed, and waited the result in a state of mind I can never forget. In a quarter of an hour he recovered, and exclaiming, that in the ecstacy he had experienced sensations of extreme delight, he passionately begged me to recommence the passes. I did so with less apprehension, and again the somnolency proceeded. The collapse, however, was less profound and terrific, and in some minutes he suddenly awoke with the exclamation, "What happiness is this!"'

Here, then, are two *facts*, one proving the spontaneous development of this ecstatic anæsthesia; the second, showing its production by the influence exercised by one individual on another. As to their authenticity, it is beyond dispute. The statements are entitled to as much credence as anything can be which we have not ourselves seen. It is impossible not to ask, *How* it is that the influence is communicated. How can we admit things so contrary to analogy—to ordinary possibilities? Gentlemen, just now I must waive the answer to this question. We shall, in the sequel, have another opportunity of inquiring what should be the limits of our belief in attested things. But receiving *now* the preceding facts as being fully and indisputably proved, let us see how far we may find an explanation for them in some ordinary causes.

The influences of this kind may be very numerous and complex. In some very nervous individuals, it is *possible* that touching them in a peculiar manner may be in itself a sufficiently powerful impression to produce, as tickling is known to do, some very singular nervous symptoms. If we suppose, then, an individual of extreme susceptibility excited peculiarly by these protracted and extraordinary touches, we have a mode of explanation applicable to a *certain number* of facts, but certainly inadequate to elucidate the entire. *Imitation*, too, that curious instinct common to man and animals, on which I have already dwelt so frequently, mây be said to operate in some cases, but certainly there are many in which it has no share in the phenomena produced. *Imagination* also may be invoked, as in the cases where an individual of weak mind and of marked credulity is submitted to the pretended magnetism by an individual of superior intellect, and with all the parade of certain impressive manual manœuvres, and especially when persuaded that peculiar phenomena are about to supervene. Now are all these sufficient to explain the events in question? I think it very doubtful, for example, that the imagination operated in the case of the *internè* above described; neither could imitation have in any degree prevailed. They were both medical men, both sceptics, both persuaded that nothing peculiar could arrive. The case is, I must confess, an embarrassing one, at any rate, for the 'imagination' hypothesis.

It is said, that the force of resistance to the magnetizers will increase the depth of the ecstacy into which the magnetized is cast. On this assertion it is scarcely possible to offer any comment. So far, then, as we have gone, we find that the operation of known causes and influences are by no means adequate to explain the phenomena which are proved to have been induced in persons thus treated. We must consequently either not attempt this kind of explanation, or else we must admit the existence of a *force*, a power, which has been called magnetic. The name is of no consequence whatever. As for myself, I have no party, no predilection on the subject. I think it is one which countenances doubts of very opposite characters, and calls for serious attention, and calm,unbiassed, and able investigation. I also am satisfied, that years of examination are necessary to resolve the question.

A reference to history is sufficient to convince us that phenomena of this description have been produced, at various epochs, under the operation of powerful moral emotions. The oracles of Greece and Egypt, the fanatics and sorcerers of the middle ages, were evidently akin to the magnetizers and magnetized. When the Spaniards discovered America, they found in the back forests of that previously-secluded and savage country, rites and incantations, the operation of which was of a similar nature. In later times, the exorcism of the nuns, for which, by the by, Urbain was burned alive; the appearance of pretended prophets, and the working of miracles at the tomb of a sainted friar, and, lastly, the performances of Mesmer, all clearly partook of the same character, and indeed, it is scarcely surprising, that when Mesmer crowded together a number of nervous individuals into a dreary and gloomy apartment, and there proceeded with his 'passes' and pretences, that extraordinary symptoms should have been produced among many of the spectators.

Again, however, I must press upon you, Gentlemen, that there are numerous facts which prove that this subject deserves your serious attention. So strong are they that many men of high information and discernment have not hesitated to profess their faith in the existence of the asserted principle. At Berlin they have even established a 'magnetical clinic,' for the purpose of investigating the matter experimentally, and applying it successfully to the treatment of disease. Now is all this delusion? Are we singularly deceived in all the facts recounted in support of this doctrine? Or, on the other hand, is the principle as true as its advocates so loudly inculcate? The truth, perhaps, lies between both extremes, for while on the one hand there are facts well authenticated, and scarcely reconcilable with our existing notions, there has been exhibited on the other, on the part of numerous professors of this practice, such a disgusting spirit of traffic, such base charlatanry, and such an utter disregard for truth, that our contempt and distrust are almost insensibly elicited against all their professions, statements, and opinions. Again, with respect to ourselves, we contain many elements of self-deception, elements, too, which may deceive us both on the negative and affirmative of the question. We are apt, for example, to start with the idea that a thing is impossible. This is wrong, it is irrational, it is unwise; it leads us to reject *proofs* of facts, because these proofs do not agree with our own previous notions. We must not be so proud of our own powers as to fancy that analogy, that induction, are omnipotent in the discrimination of truth, neither must we measure possibility by the standard of our own restricted notions. How many are the things which we now readily admit, and which but fifty years since were denied? How many things do we see daily done which we but lately deemed impracticable? But on the other hand, while we set out with this wholesome diffidence of our own sagacity, and distrust of our own knowledge, the opposite fault is equally dangerous and equally to be shunned. Too great a facility in belief is as great an evil as too rigid a tendency to distrust. We must, therefore, subject the asserted facts to a rigorous scrutiny, we must examine their order, number, nature, and the character of the witnesses which attest them. The facts must be reproduced often, and by other persons than their pretended discoverers. We must for a long time view everything that is singular of this description,with a moderate, a cautious suspicion, even though attested by individuals of the best faith and the highest attainments. For, Gentlemen, it is almost incredible what children we still are, — how strong is our tendency to the wonderful and the uncommon, and how effectually we can deceive our most truth-worthy senses by the influence of our prejudices and expectations. Let a pathologist, for example, set out with an hypothesis, and he will persuade himself that he sees in the dead body lesions visible to no other eyes. Let the clinical practitioner build his castles in the air about some new remedy, and he will conscientiously believe in, and affirm the occurrence of, effects which have no existence whatever.

Having proposed the general bearings of this difficult and interesting topic, we are enabled perfectly to understand each other, and to avoid falling into baseless credulity on the one hand, and groundless scepticism on the other. I may now go a little more minutely into the reputed symptoms or characters of this pretended magnetic state, and you will find that they embrace a variety of singular things, the notice of which I have purposely reserved until we have discussed the previous preliminary questions.

It is stated then, that when an individual is thrown by the agency of another into this state of magnetic ecstacy, while all relation with the external world is interrupted, through the ordinary channels, by the temporary insensibility of the organs of sensation, that, nevertheless, he may manifest the singular power of maintaining these external relations by means of new and unknown means; that his intellectual faculties may, meanwhile, become wonderfully heightened, that he may acquire the power of knowing the thoughts of others, of ascertaining their diseases and his own, of prescribing the suitable remedies, nay, even of predicting future events. Such is a brief sketch of what is said to happen in the magnetized. To study these assertions correctly, we must consider them *seriatim*, not minding their supposed impossibility, but examining the nature and character of the testimony which supports the asserted facts.

The *first* then is the alleged abolition of all sensibility by the ordinary organs of perception. This may at once be admitted, inasmuch as, independently of the magnetic ecstacy, it exists in other distinct affections.

The *second* is the obliteration from the memory of all circumstances occurring during the ecstacy. This we may also admit for it is nothing more than what we see daily in epilepsy and hysteria, and other nervous and convulsive diseases.

The *third* is the asserted fact, that the person magnetized, while insensible of everything else around him, preserves a connexion with the person by whom he is magnetized: that is to say, who exerts the influence on him, producing the state in question. This is certainly not *proved.* In all that the magnetizers have said and written there is not a solitary unequivocal fact to substantiate this statement; all the pretended proofs of this description appear to me to be little better than a tissue of barefaced humbug and clever chicane. — *Andral's Lecture.*

ERGOT OF RYE.

M. Boettcher, apothecary at Mendelurtz, in the duchy of Altenbourgh, believing that the different energy of various specimens of ergot might depend on the circumstance of its being collected before or after the cutting of the parent crop, obtained a quantity gathered before and after the harvest. He sent the separate products to the minister of public instruction at Berlin, who remitted them to Dr Kluge for clinical trial at the Maternité of that city. The substance was employed on fifteen females, all well formed, and with natural presentations. The following are his comparative results: — The action of ergot of rye collected before harvest is very energetic, while that collected after harvest is totally powerless. 2nd. In many cases the remedy renders the forceps unnecessary, especially when the insufficiency of uterine force depends either on real atony, or on a spasmodic contraction of the neck of the uterus. 3rd. The ergot gathered before harvest arrests uterine hemorrhage. 4th. The dose is from thirty to sixty grains, administered in portions of ten grains every ten minutes.

A subsequent number of the same journal also contains the results of a new chemical analysis of the ergot, and the supposed discovery of its active principle, by M. Wiggers of Berlin. His experiments, though they require repetition, are still extremely important. In 103 parts of ergot, M. Wiggers has found —

White oily matter	35.0006
Solid fatty matter, crystallizable, and of peculiar nature,	1.0456
Cerine	0.7578
Fungous matter	46. 862
Ergotine	1.2466
Vegetable ozmazome	7.7645
Sugar	1.5530

Gummy extract, with a red coloring principle	2.3250
Vegetable albumen	1.4800
Acid phosphate of potash	4.4221
Phosphate of lime, and traces of iron	0.2822
Silica	0.1394
	102,0930

There are some remarkable points in the preceding analysis. In the first place, the presence of vegetable ozmazome identifies the ergot with the class of mushrooms in which this substance forms a considerable proportion. In this ozmazome seems to reside the power which promotes parturition. The *ergotine* is insoluble in water, and seems, from the experiments of M. Wiggers, to be the principle in which the poisonous qualities of the ergot reside. On several animals it has operated as a powerful irritant poison, while the ozmazome produced no such effect. — *Lancet.*

EPIDEMICS INDEPENDENT OF ANY APPRECIABLE CHANGES IN THE ATMOSPHERE.

Baron Alibert very justly observes, that we cannot well account for the suddenness of the invasion, the quickness of the transition from perfect health to most formidable and fatal disease, the inefficacy of all prophylactic as well as of curative means, and many of those inexplicable symptoms which mark the history of most pestilences, by reference to any alterations in the physical or chemical condition of the atmosphere. He does not deny that these alterations may seriously affect both man and the lower animals, and may considerably modify the type and general character of many of their diseases; but then daily observation abundantly proves that these very alterations may take place rapidly, and to a great extent, without bringing along with them that host of horrors and that desolation which marks the invasion of a pestilential scourge. Tacitus mentions that, during the terrible plague at Rome, in Nero's reign, there was 'nulla cœli intemperies quæ occurrerit oculis,' but that some earthquakes and dreadful storms had been experienced about that time. The weather which preceded the invasion of the plague in London, in 1665, was pleasant and healthful, according to Sydenham; but while it raged, there was also great mortality of the lower animals, especially of sheep and cows; and it is worthy of remark, that in the years 1664-5-6, three comets had been visible, and Mount Ætna was in a state of constant activity.

According to Fernel, the pestilential dysentery which desolated Europe in 1538-9, was not accompanied by any appreciable changes in the state of the atmosphere ; but violent earthquakes and eruptions from Mount Vesuvius occurred at the time. He comes to the conclusion, that it is needless to search for the germ of an epidemic in the air ; that it is a poison sent from Heaven upon earth — 'inquinamentum a cœlo demissum.' In 1580, Egypt was visited by a plague more terrible than any since the time of Pharaoh ; in Cairo alone, half a million died in the course of eight months ; and, during the same year, Rome, Hamburgh, Lubeck, and many other towns in Europe, were ravaged by a most fatal epidemic catarrh or influenza ; there was also great mortality among all sorts of cattle, and, moreover, a comet was visible for two months. An interesting feature in the history of epidemics is, that they are often present in numerous places, widely remote from each other, and each having very different climates, at one and the same time ; and, on the other hand, certain places or districts frequently escape, while all around is the scene of their ravages. Similar occurrences are met with in the vegetable world ; one field of corn will sometimes be found destroyed by the blight, while the adjacent ones are sound and productive, even although their soil is alike, and they have been treated in exactly the same manner. The plague of 1576 depopulated Verona and Padua, and spared Vicenza, situated between them ; on the following year Vicenza was visited, and the two other towns escaped.

Again, sudden and very terrible changes in the atmosphere have been known to occur without inducing any pestilential disease. The famous epoch in the 6th century, when storms and tempests so utterly confounded all distinctions of the seasons, that the end of the world was deemed to be at hand ; when the sun became pale, and gave only a feeble light for twelve months — 'toto anno eo, lunæ instar sine radiis lucem tristem præbuit plerumque defectam patienti similis,' when eclipses added to the darkness and horror, when the plants of the earth were dried up and withered away, and when famine stalked abroad among the nations, even then no pestilential disease existed. Many other instances might be mentioned, but it seems unnecessary. We are, therefore, justified in our conclusion, that the air may serve as a vehicle for the dissemination of the germs of pestilential diseases, but that it is not the source which gives them birth. — ***Révue Med.***

ON A SINGULAR AFFECTION OF THE ORGAN OF LANGUAGE, PRODUCED BY THE ACTION OF MORPHIA. BY WILLIAM GREGORY, M.D., F.R.S.E. Sec. Phren. Soc.

About two years ago, while occupied in examining opium, and especially the salts of morphia, I had acquired a bad habit of tasting the solutions; and it happened more than once, that, by repeated tastings, I received into the system a quantity sufficient to produce effects which I was at first far from attributing to the true cause. The first effect which struck me was, that, in reading, the words, which I saw distinctly, conveyed to my mind an impression which I could not define, but which was certainly different from the right one. On attending as closely as I could to what passed in my mind, I was conscious of nothing but that the words seemed to have lost their true meaning. When this effect had passed off, I was unable to recall what the erroneous impressions had been. A few days after the first occurrence of this affection, while still engaged in the same experiments, I was suddenly taken ill, and had nearly fainted. On recovering, I observed my eyes to be affected in a way to which I am subject, in common with others of my family, when the stomach is slightly deranged. This affection of the eyes consists in an unpleasant vibratory motion of zig-zag lines before the eye, rendering vision partial, and accompanied by nausea. In ordinary cases, it is soon followed by a headache, confined to behind the eyeball when the sight becomes clear. On this occasion, the affection of the eye was unusually great, which led me to predict a violent headache. In a few minutes the headache came on. It was very severe, and confined to that part of the brain situated behind the eyeballs. As soon as I could see clearly, I was astonished to find that I was affected as I had formerly been in regard to words, but to a much greater degree. Not only was I incapable of rightly reading written language, but words addressed to me conveyed a meaning different from the true one. I think also, but of this I am not certain, that a few words which I spoke were observed to be incoherent. But during the whole of this time, my mind was perfectly clear, and I was quite conscious that the erroneous impressions were confined to the faculty of Language.

I began now to suspect that I had suffered from my imprudence in tasting the solutions; which idea was confirmed when I found that a friend who had accidentally taken a large dose of muriate of morphia, had suffered in a manner somewhat similar to what I have described, in regard to the fainting and sickness produced. This gentleman did not observe any affection of Language, but he was in a state of such complete prostration, that he lay for two days without being able to raise his head, and consequently did not attempt to read. I resolved to abstain in future from tasting solutions of opium; but, from habit, I did taste some about a week after; and, a third time, I experienced the same effects, as to language, but without the headache. Having overcome the habit of tasting, I have not since experienced anything of the kind.

Here, then, is a very marked derangement of the faculty of language, amounting to a dissociation of the sign and the thing signified, produced by an overdose of a salt of morphia; and, in the most severe instance, it was accompanied by violent headache in the situation of the phrenological organ of Language. But, it must be remarked, that, in the other two cases, there was no headache; and that I have frequently had headache in the same situation, from derangement of the stomach, without *observing* a similar affection of Language. It by no means follows, however, that this affection did not exist.

A very interesting question now arises, viz. What is the effect of a moderate dose of the same medicine? And, in my own person, I can state distinctly, that, in this case also, the faculty of Language is affected, but in a very different way. If I take from twenty to thirty drops of the solution of muriate of morphia, it produces, in the course of an hour, a very agreeable state of calm; and, for some hours after, the organ of Language is so strongly stimulated, that, so far from having any hesitation in finding words, I find it difficult to stop when I begin to speak; and I have repeated this experiment, which is attended with no inconvenience, so often, that I am quite confident of the result.

Dr Montgomery Robertson, in a paper on the salts of morphia in the Edinburgh Medical and Surgical Journal, recommends the muriate to nervous people who have to make an appearance in public, on account of the calm collectedness of mind which it produces. I am disposed to concur in this recommendation for another reason, viz. the stimulus which it affords to Language.

I am inclined to believe, that all the intellectual organs participate in this stimulus. At all events, when under the influence of this drug, I have always observed an increased flow of ideas, and a greater power of following out a train of reasoning; and I have never experienced from it any excitement of the lower propensities. I have often had occasion to remark, that, even when the muriate of morphia does not cause sleep, the patient rises refreshed, although the intellect has been actively employed all night. It appears as if, to use a strong expression, the mind was awake while the body slept. This remark is confirmed by the experience of others.

I consider it, therefore, probable, that the action of morphia is directed to the anterior lobe, and, in some individuals, more particularly to the organ of Language, and that an overdose causes entire derangement of that faculty. These conclusions will have to be confirmed, or otherwise, by the observations of intelligent practitioners. Since writing the above, my attention has been drawn by Mr Simpson to the description of the effects of opium contained in the 'English Opium-Eater,' and Madden's

Travels, both analyzed in this journal. I shall only remark here, that, in the English Opium-Eater and Mr Madden, all the knowing organs, except that of Language, appear to have been affected, and the propensities and sentiments do not seem to have participated in the stimulus, which affords a strong and unexpected corroboration of the conclusion to which I have been led by my own observations.

I have only farther to add, that, at the time these observations were made, I was ignorant of Phrenology, and knew nothing of the seat of the various organs, and consequently was utterly at a loss to account for the phenomena. — *Lancet.*

ON SUGAR, AS AN ANTIDOTE AGAINST POISONING FROM COPPER.

The conclusions which M. Postel draws from all his observations are —

1. That sugar decomposes the acetate of copper, not only at the boiling temperature, but at the ordinary one of the atmosphere, although more slowly — that this decomposition proceeds more or less rapidly, according to the concentration of the fluids; and that, under all circumstances, the coppery salt is reduced to a protoxide.
2. That sugar exerts an analogous effect in the stomach, since animals to which it is administered, resist the agency of the poison much longer than when it is not; and since the morbid appearances on dissection differ considerably in the two cases.
3. The morbid appearances, when albumen has been given, are nearly the same as when sugar has been given.
4. Sugar may, therefore, be considered among the direct antidotes against poisoning from salts of copper. — *Bulletin de Therapeutique.*

ON PULMONARY EMPHYSEMA, IN CASES OF SUDDEN DEATH, AND IN ASPHYXIA FROM HANGING.

Dr Prus, after adverting to the causes of death in such cases, from closure of the larynx, with or without rupture of its cartilages, or of the trachea, from lesion of the spinal cord by luxation or fracture of the cervical vertebræ, from congestion of, or hemorrhage in the substance of the brain, &c, endeavors to prove that death may also be partly occasioned by an emphysematous state of the lungs.

Case 1. L. A. aged 69, entered the Bicetre Infirmary on the 10th January; he labored under a constant oppression and sense of suffocation when he walked Auscultation and percussion abundantly showed that the lungs were perfectly normal; and the only disease which could be ascertained was a slight hypertrophy of the left ventricle. One morning, he was found hanging from the roof of the bed by means of a cord, which serves to enable the patients to raise themselves up.

Dissection. No lesion of the larynx and trachea. The upper lobe of the left lung, and the upper and middle lobes of the right one, were affected with vesicular emphysems; and, at one part, the air had escaped from some ruptured cells under the pulmonary pleura, and had thus formed three large bladders of air, each nearly an inch across. The appearances in the other viscera were those usually found, as congestion of the cerebral vessels, &c.

Remarks. One of the most frequent phenomena in the bodies of those who die from hanging is the fluidity of the blood, observed long ago by Valsalva. The blood was perfectly fluid in the preceding case. By keeping this in mind, we can more easily account for the purple congestions and infiltrations in the skin, mucous linings of the bowels, bladder, and urethra, which Morgagni alludes to. It remains for future inquirers to ascertain whether the emphysema, which we have pointed out, be a constant, or merely an occasional phenomenon. Littre, in the Mem. de l'Acad. Roy. des Sciences, 1704, says that he found the lungs of a woman, who had been strangled, forcibly distended by the air which they contained, and the pleura entirely separated from the subjacent pulmonary tissue. Bonetus, in his Sepulchretum, says that, in one case, there was 'fistulam spumâ pulmonum impletam.' In some of the cases reported by Orfila, we observe that the lungs had been found emphysematous.

In all researches on asphyxia, it is of the first importance to remember that death may often be induced, where the mechanical constriction or obstruction of the air-passages does not totally prevent the ingress of the air. Foderé has seen a case, in which complete and fatal asphyxia was caused by a small portion of the shell of a nut, which, on dissection, was found lying free, and not at all impacted, in the bifurcation of the trachea into the two bronchi. Some instances of very sudden natural death are probably caused by an emphysema, either vesicular or interlobular, of the lungs. Dr Prus alludes to a case of an old gentleman who was found dead in his bed; and the only morbid appearance on dissection was an immense sub-pleural emphysema.

A man in the Bicêtre Infirmary became quite suddenly alarmingly ill; the face was purple, no pulse could be felt, and the extremities were cold and motionless; the physician predicted either hemorrhage within the skull, or pulmonary apoplexy, or perhaps rupture of the heart or of the large blood vessels. On opening a vein no blood flowed out, and the patient very speedily died.

Dissection. The only lesion which could satisfactorily account for the above seizure, was an immense sub-pleural emphysema of the whole inferior lobe of the left lung. The observations of MM. Leroy d'Etiolles, and Piedagnel, confirm the idea which we have set forth, that many cases of sudden death are attributable to pulmonary emphysema; and it is, therefore, very probable, that the speedy occurrence of this lesion may be one of the causes of death from strangulation. — *Trans. Med., October.*

MR MIDDLEMORE ON THE PURULENT OPHTHALMIA OF INFANTS.

There is a sensible paper on the Ophthalmia Neonatorum in our valued contemporary, the Medical Gazette. We shall notice some of Mr Middlemore's remarks on the causes and treatment of the disease. With respect to the first, Mr Middlemore appears satisfied that it is always to be found in morbid vaginal discharges of the mother, there being at the same time some defect in the children themselves, or in the management of them, predisposing them to the disease, or aggravating it when present. Those morbid vaginal discharges may be gonorrhœal, gleety, or leucorrhœal; in short, they may be various, without corresponding, or at least recognizable, varieties in the character of the induced ophthalmia. This seems to be the pith of Mr Middlemore's theory of causation.

'Infantile purulent ophthalmia more frequently attacks the progeny of the poor than the offspring of those in better circumstances; it is more common in premature children and twins, and is most obnoxious to those who are weak and delicate in constitution; it is also observed to be very prevalent in Foundling institutions — those, I mean, that receive infants deserted by their parents immediately after birth; whence I infer, that delicacy of constitution, want of cleanliness, defective nursing, and a vitiated and unwholesome atmosphere, are powerfully predisposing causes.'

Now leucorrhœa is very common in women of the middling and upper classes, but in their children ophthalmia is very uncommon. This proves, without further argument, that other circumstances are necessary to render the leucorrhœal discharges operative in producing the ophthalmia. Cleanliness and clothing, and pure air and vigor, are probably the most essential protectors against contamination; but whether differences in the maternal discharge are operative in rendering the infant more or less liable, is a question that we cannot pretend to solve. It certainly does appear, that a person with gleet may or may not communicate gonorrhœa to the female with whom he is connected, and it is also likely that what is termed leucorrhœa, that is a mucous discharge from the vagina, not consequent on venereal infection, will occasionally, but not commonly, infect the male. We are not well acquainted with the laws that regulate the infecting power of vaginal discharges. But let us pass to Mr Middlemore's method of treatment. It is rather judicious than novel.

In slight cases, an astringent lotion and a dose or two of magnesia will effect a cure. The majority of cases are not so slight, and much depends on obtaining the management of them at an early period. In such a case, at such a period, we may use a solution of alum and a slight aperient. The eye should be washed every half-hour, or, if necessary, oftener, with a well-made ivory or pewter syringe, the point not too sharp; the extremity is to be placed between the lids, at the outer angle of the eye, and should pass it, for a short distance, almost parallel with the surface of that organ, and not so obliquely as to hurt the eye-ball, or oppose the conjunctiva as an obstruction to the issue of the fluid. The eye is thus to be syringed with a little warm milk and water, after which a weak solution of the sulphate of zinc or alum (gr. iij. ad ℥j.) may be thrown in, and repeated, with the same preliminary washing, every second hour. Mr M. recommends the nurse to apply a little fresh butter, or sweet oil, or mild ointment, along the tarsal margins, whenever the child is about to sleep, a precaution which renders unnecessary the tedious bathing of the lids. This should be combined with a dose of magnesia, or, if the child be jaundiced, as sometimes happens, of hydrargyrus cum cretâ.

The inflammation may be severe, with chemosis, &c. Mr M. then recommends the application of a leech to the root of the nose, or upper lid of each eye, according to circumstances. Of course great care must be taken to prevent the bleeding from proving too considerable. If the lids are much swollen, with obstructed circulation, and if any vessel be particularly large, it may be opened with a lancet, and the bleeding encouraged by warm water.

If the case has proceeded farther, the cornea having ulcerated or sloughed, the chemosis diminished, and the conjunctiva become comparatively pale, 'it would be right to use a solution of the nitrate of silver (two or more grains to the ounce) two or three times a day, the eyes being frequently bathed with zinc lotion. If suppuration of the eye-ball has taken place, the surgeon should not be too tardy in puncturing the cornea, and discharging the contents of the eye-ball.

Mr Middlemore protests against 'the harsh applications' of Dr Vetch, particularly the undiluted liquor plumbi acetatis. He also thinks that, at the present time, there is an 'extraordinary partiality for the early employment of stimulants.' He would not wish them used till the proper time, that is, till the acute stage has passed by. Mr Middlemore cannot coincide with Mr Guthrie, in using the unguentum argenti nitratis in the earliest stage of the purulent ophthalmia of infants.

As Mr Middlemore's strictures are levelled against stimulating applications generally, when employed in the early stages of ophthalmia, we may be permitted to make this remark — that at Mr Guthrie's Ophthalmic Hospital, stimulants are not found to be productive of those mischiefs which their opponents attribute to their employment. For the results of Mr Guthrie's treament, we can safely refer to a report from the Ophthalmic Hospital, published in a late Number of this Journal. The cases there detailed are satisfactory evidence of the advantages, we put it broadly, the great advantages, of stimulating *early* in certain conjunctival inflammations. —*Medico-Chirurgical Review.*

BAD EFFECTS OF SMOKING TOBACCO.

Such is the title of an article in our contemporary, the London Medical and Surgical. As our readers may like to know what these bad effects are, and as the article devoted to them is brief, though themselves may be long, we will gratify their curiosity by extracting it.

'The practice of smoking is now so general, that our atmosphere is strongly poisoned with tobacco-smoke. The air is sufficiently impure in this metropolis, without further contamination. At every corner we see a number of pipes or cigars, especially in the mouths of boys and young men. The bad effects of tobacco are first produced on the glands of the mouth, which form the saliva ; these are excited and form an increased quantity of this fluid, which, instead of passing into the stomach, to assist in digesting the food, is expelled from the mouth. Great smokers have weakened powers of digestion, and are subject to bilious and nervous complaints, lowness of spirits, and diseases of the lungs and brain. The German medical writers allege, that of twenty deaths of men, between the ages of eighteen and thirty-five years, ten are destroyed by tobacco. This substance is one of the most powerful narcotics and debilitants ; will produce stupor, drowsiness, headache, vomiting, and defective vision when used in excess ; and, therefore, when long continued, and frequently employed, must be injurious to health.

If this be true, a pipe is indeed a Pandora's box, and woe to the hapless youth, be he of high or of low degree, who dares to open it. We must confess that we do not participate in the alarm of our esteemed contemporary at the contamination of our atmosphere. It will require many more pipes than are at present in circulation, to sully the smoky air of the Modern Babylon. We should like to know what are the diseases of the lungs and brain to which great smokers are subject, and how the German writers discovered, that ten out of twenty deaths of men, between the ages of 18 and 35, are produced by smoking. This latter is, we fancy, a piece of German fanfaronnade, and carries absurdity upon the face of it. In venturing to dissent from the sweeping condemnation of our contemporary, we beg to say that we are perfectly disinterested, being neither keepers nor frequenters of any 'Cigar Divan,' nor patrons of the 'weed' in any shape. But really we think it hard that even an enemy should be treated unfairly; and old as the practice of giving a dog a bad name may be, we do not think that its antiquity consecrates its use.

If smoking were so prejudicial as its opponents assert, the world would ere this have been generally aware of it. The increased civilization and knowledge of the century have nearly banished excesses in wine and spirits from among the educated classes. Their reason and information convinced them that such practices were alike degrading and destructive. But tobacco-smoking is certainly on the increase, and we repeat, that the common-sense of mankind would speedily determine its injuriousness, if it were really injurious in a very perceptible degree. We say nothing of the custom, as a custom; it may be beastly, intolerable, or what not, but we feel well assured that it is not so pernicious as those who dislike it would seem to imagine. —*Ib.*

NITRATE OF SILVER IN DISSECTION WOUNDS.

To the Editor of the Lancet.

SIR, — I have much pleasure in communicating the following case, on the use of the nitrate of silver, which probably will prove of no little benefit to medical students, as pointing out the means by which punctured wounds, received in the dissecting room, may be divested of all their terror, and ultimate constitutional derangement be avoided.

A few days ago, when dissecting at St Thomas's Hospital, I received a wound in the index finger, which did not immediately manifest any symptoms of increased vascularity, that is to say, not till about two days after, when heat and tenderness came on, with redness and increased arterial action, and swelling along the course of the absorbents.

This rather alarmed me, but having previously read Mr Higginbottom's work on the " Use of the Nitrate of Silver," I resolved to give the remedy a fair trial.

I moistened the finger, back of the hand, and, in fact, every part which presented the least appearances of inflammation, and drew a stick of caustic three or four times over the parts, which, in twenty-four hours completely blackened them. The eschar remained on the parts for several days, and then began gradually to separate ; and at this moment there scarcely remains the least vestige of its colour. I am convinced from this case, which I think an important one, that the *usual* counter irritants and applications are totally inadequate in point of efficacy when compared with caustic.

I am, Sir, your obedient servant,
Henry Harris.
St Thomas's Hospital, 30th Jan. 1833.

UTILITY OF MALT POULTICES.

In a recent number of the ' American Journal of Medical Science, Dr Williams relates several very interesting cases of severe and offensive ulcerations, in which the malt poultice was applied with great and rapid advantage. He prepares it in the following manner : Stir into good boiling beer as much ground and sifted malt as will be sufficient to form it into a poultice of a proper consistence ; spread it thick upon cotton or linen cloth, and cover the surface of the poultice with about a table-spoonful of the best yeast, and lay the poultice thus prepared upon the ulcer. Spread the poultice much larger than the ulcer, and change it two or three times in the course of twentyfour hours. When barley malt cannot be obtained, oatmeal will answer. The ulcer will be sweetened, and will discharge bland matter in twenty-four hours; yet it will be advisable to continue the poultice three or four days.

We think, with Dr Williams, that many substitutes for the malt poultice have lately been introduced into surgical practice, which are much less efficacious in ill-conditioned and sloughing ulcers, and even in ulcers which have assumed a gangrenous appearance.— *West. Med. Gazette.*

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" Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I.—OBSERVATIONS ON MENTAL DERANGEMENT.

[Concluded from our last.]

ANOTHER cause of mental inefficiency, if not of actual derangement, is the want of a due supply of well arterialized blood to the brain. A deficiency of this kind necessarily debilitates every part of the body, and predisposes it to disease. In this case then the brain suffers in common with the whole system. If that organ fails to receive a due quantity of well prepared blood, which is the source of its vitality, the consequence is obvious. Its life and vigor will be diminished, and langour and dulness will ensue. For, full vitality is as necessary to the functions of the cerebral system, as to those of the muscular. Let the debilitated condition of the brain be carried too far, and it terminates in disease; and that disease may be idiocy, or some other form of mental alienation. It is through the function of the lungs acting on and by the atmosphere, that the blood is arterialized and endued with life. But this function cannot be fully and soundly performed, unless the air used in respiration be unadulterated. Hence the deleterious effects of breathing impure air. These are correctly stated by Dr Combe to be as follows:

'Languor and inactivity of the mental and nervous functions ensue, and a tendency to headache, syncope, or hysteria, makes its appearance. This is seen every day in the listlessness and apathy prevalent in crowded and ill-ventilated schools; and in the headaches and liability to fainting which are so sure to attack persons of a delicate habit in the contaminated atmosphere of crowded theatres, churches, and assemblies. It is seen less strikingly, but more permanently, in the irritable and sensitive condition of the inmates of cotton manufactories, crowded schools, and public charities. In these instances the operation of the principle cannot be disputed, for the languor and nervous debility consequent on confinement in ill-ventilated apartments, or in air vitiated by the breath of many people, are neither more nor less than minor degrees of the same process of poisoning, to which I have above alluded. It is not real debility which produces them; for access to the open air almost instantly restores activity and vigor to both mind and body, unless the exposure has been very long, and then more time is required to re-establish the exhausted powers of the brain.'

Chap. V. This is a long chapter; and it treats in a very able and interesting manner, of the '*exciting or occasional causes of mental derangement.*' We recollect no other work that gives so clear, practical and excellent a view of the true philosophy of the *production* of disease. The fact is but rarely noticed, and still more rarely appreciated as it ought to be, that when an individual is subjected to the action of an exciting cause, it depends on the *condition* of his own system, at the time, whether any disease be produced; and, if any, of what form or character. If his constitution be perfectly sound, without any bias toward one complaint more than toward another, he may, and probably will, sustain the action of the deleterious cause with impunity. But, if his constitution be defective, the complaint produced will conform to that defect, and will attack the part in which it exists. Hence the same exciting cause, acting on several individuals, at the same time, will occasion in each of them a different form of disease, provided their constitutional deviations from perfect health are different. Of this important truth, so little attended to by medical writers, our author gives the following illustration.

'A young man lay by a river side with his head exposed uncovered to the direct rays of a summer's sun, and shortly after became delirious, and in four days died of inflammation of the brain; another person, similarly exposed, soon began to complain of headache, sickness, thirst, heat, and other symptoms of fever, and went through a severe febrile attack before he recovered his usual health; while, from the same cause, a third individual became deranged, and did not throw off the disease for many months ; and yet in all these cases the efficient or immediate cause was identically the same, and the difference of result was owing solely to the difference of constitution or state of the individual to whom it was applied.'

The interpretation of the matter is this ; the *predisposition* of the system, which is nothing else than the constitutional condition for the time being, determines the character of the disease, which the occasional cause excites, precisely as the nature of the seed deposited in the ground determines the character of the plant, which warmth, moisture, air, and light concur in producing from it. It is on this ground alone that a sound and efficient prophylaxis of disease can be instituted. Does a predisposition of any strength exist ? The only way to prevent it from ripening into the complaint it threatens, is to avoid exciting causes ; and whatever deleterious impressions produce other complaints, where there is a constitutional leaning toward them, will also produce insanity in a brain predisposed to that malady. Our author divides such causes into LOCAL and FUNCTIONAL, and enumerates them as follows.

'Whatever disturbs the healthy action of the brain may become an *exciting* cause of insanity, and of nervous disease. External violence, the application of intense cold, exposure to solar heat, irritation in a distant organ of the body, severe and unremitting study, mental affections, grief, fear, anxiety, inordinate ambition, and, in short, any feeling of the mind roused to an inordinate degree, are all occasional causes of insanity and of cerebral disease, because all of them tend to disturb the healthy action of the brain. But it must be observed, that the same causes sometimes do not occasion any disorder in the manifestations of the mind, either of an acute kind, like delirium, or of a chronic nature, like insanity. This difference of result depends, as formerly pointed out, on the peculiar constitution to which the exciting cause is applied. If a hereditary predisposition to insanity exists, then the consequence will most likely be an attack of mania ; if there be no predisposition, and the patient be young and vigorous, and the cause sudden and violent, then acute disease and delirium will most probably follow ; and, lastly, if the individual be arrived at maturity, and otherwise in good health, and be favorably situate in respect to resources, the effect may be simply a paroxysm of mental distress, which will subside before it goes the length of disease. In all these instances, however, the *tendency* and *action* of the cause is *to derange the health of the brain;* and the manifestations of the mind never become morbid, unless the health of the brain be previously overset.'

Two other exciting causes of madness are, the improper use of intoxicating liquors, and starvation. The influence of the former of these is universally recognized, and that of the latter is abundantly sustained, by the history of disasters at sea, where the crews of wrecked vessels die of hunger. Some time before death, they usually pass into deep, and, for the most part, ferocious mental derangement. Hence the acts of horror they so often commit, in gnawing their own flesh, and drinking their own blood, as well as the flesh and blood of each other. All these several points Dr Combe illustrates and confirms by pertinent and forcible examples.

Our author's discussion of the *functional* class of causes, is perhaps the most deeply philosophical and interesting in his book. No one, however, but a phrenologist can fully understand or duly appreciate it. It treats of the brain in a twofold point of light; as the *seat of thought*, and the *centre of sensation and nervous energy*. This division is necessary, because there are two distinct classes of causes in harmony with it; one of them, of course, excites sensation, and the other perceptions or reflections; and an excess or deficiency of either deranges the brain, and may induce madness. This effect may be produced by irritation or pain in some remote part of the body, as well as by grief, fear, love, or jealousy, or by too ardent a pursuit of knowledge. As relates to the production of madness by irritation in remote organs, we are furnished with some curious and valuable matter, a knowledge of which will aid the reader in solving phenomena, which might be otherwise unintelligible to him.

'It has been remarked by both Bayle and Broussais, and with much appearance of truth, that, when cerebral disease springs from irritation in remote organs, such as the stomach or liver, the mental delusions resulting from it have a direct relation to the functions of these organs. Bayle gives a number of cases in which inflammation and ulceration of the mucous membrane of the stomach and intestines seem to have preceded the mental affection, and given rise to the dread of poison, to the refusal of food, to melancholy, and even to suicide, as the means of escaping from poison, as the features of the hallucination. Broussais, on the other hand, after laying down as an undeniable principle, that whatever stimulates the brain may become a cause of madness, and calling attention to the fundamental truth, that the brain is placed between two orders of stimuli, those which come to it by the nerves of the external senses, and those which it receives from the nerves of the internal viscera, adds, that, next to local causes, the most influential are irritations proceeding from the stomach, liver, or duodenum. "Indeed many persons contract, under the action of an exciting regimen, of poisons, or of irritating medicines, a chronic gastritis, which, after having kept them for some years in a hypochondriacal or nervous state, ends by throwing them into mental alienation. Others lose their reason in a much shorter time from the same cause. If the time is extremely short, and the gastritis acute, the delirium is no longer called *madness ;* it then becomes phrenzy, or febrile delirium. But what is very remarkable, is, that frequently the *moral* causes, or those which act most directly upon the brain, only give rise to madness after having first developed and kept up gastric inflammation for some time, as if the encephalon required, in certain subjects, the reaction of the viscera to stimulate it to the necessary degree of irritation. This happens in many melancholics from nostalgia, unrequited love, loss of fortune, mortified pride, &c, who lose their reason only after having long suffered from gastro-enteritis and mental depression. And this ought not to excite surprise, as in many persons, moral emotions, although felt by the brain, produce at the time less effect on the organization of that viscous, than on that of the heart, lungs, or stomach."'

Dr Combe's remarks on what are called the *moral* causes of madness, are peculiarly important. Every physician, ambitious of a correct and practical acquaintance with the complaint, ought to be familiar with them. They are strictly philosophical and true, and subvert several antiquated errors and superstitions, which schoolmen and metaphysicians have propagated on the subject. By a *moral* cause is meant one which operates on the *mind alone*, and deranges *it*, instead of the *brain.* Hence the disease it produces is called '*purely mental.*' The doctor exposes completely the inanity of this notion, and shows how useless it would be were it even true. A 'disease of the mind' is beyond the reach of medicine ; and it is matter of surprise, that the contrary opinion has ever been entertained by intelligent practitioners, and illustrious men. Our author has shown to the conviction, we think, of every one, that the causes called *moral* are purely *functional ;* and that, therefore, the disease produced by them in the brain is as fairly under the influence of remediate agents, as functional complaints in any other organ of the body. In fact he has demonstrated, that mental derangement is as essentially a disease of organized matter, as pleuritis, gastritis, hepatitis, or any other that man is subject to. True ; other writers had inculcated previously the same doctrine. But we know of none, who, in our opinion, has done it so conclusively. To give an illustration of this. Terror is considered a *moral* cause, which operates on the mind alone, and often shocks it into madness. Hence the malady thus produced is pronounced *exclusively mental.* This, however, is an error, as palpable as it would be, to declare gastritis exclusively a complaint of the *vital principle,* wholly disconnected from any affection of the substance of the stomach. Terror is not a *moral* but a *functional* cause, and affects only the brain, without touching the mind. It consists in excessive excitement of the organ of cautiousness, producing derangement of function or structure, or both. The complaint, therefore, is as strictly a cerebral one, as if it had been produced by mechanical violence. Of insanity arising from any other passion or emotion, the same is true. It is the result of functional or structural derangement, or of both. Such is also the case with regard to madness produced by the excessive exercise of any of the intellectual faculties. The cerebral organ, to which the faculty belongs, is injured by intense excitement, precisely as the eye is often injured by too much light, or the stomach by food too highly seasoned.

Other things being equal, the larger any cerebral organ is, the higher is its endowment, the more excitable it is, and therefore the more prone to excessive action. Hence the predominant organs of the brain are most frequently the seat of mental derangement. Their functions become most frequently abnormal, and their faculties irregular. This is analogous to the well known fact, that a man, whose supremacy consists in muscular strength, is apt to be inordinately addicted to such manifestations of it as ultimately prove injurious, by inducing rheumatism, or some other form of muscular disease.

Inasmuch as excessive functional excitement is more frequently than anything else the occasional cause of insanity, and as such excitement most readily and frequently occurs in the predominant organs of the brain, almost every attack of madness is originally *local* — a real *monomania* — arising from excessive action in the organs, which thus overwork themselves. Hence the poet is mad first on the subject of poetry, the mathematician on mathematics, the musician on music, and the mechanician on mechanics, especially, perhaps, on the invention and construction of a perpetual motion. Other organs suffer by sympathy; until the whole brain may become ultimately involved. The malady is then universal.

These several topics our author has treated with much ability, and has shown an extensive and thorough acquaintance with them. We cannot therefore too earnestly recommend to the reader to study carefully the chapter we have been considering.

Chap. VI. In this chapter our author treats of the '*Symptoms of mental derangement,*' and manifests his usual intelligence on the subject. Yet, lucid and simple as his views and illustrations are, none but a phrenologist can comprehend them, and profit by them. The reason is plain. The symptoms of madness are nothing but manifestations of diseased conditions of the functions of the several organs of the brain. Before these conditions, therefore, can be recognised, as deviations from healthy ones, the healthy conditions themselves must be correctly understood. But the phrenologist alone has a knowledge of them. He alone, therefore, can attain a correct acquaintance with the symptoms of insanity. To express the same idea in a plainer and simpler manner. He who would attain a knowledge of the diseased physiology of the brain, in which madness consists, must first become acquainted with its healthy physiology. For nothing but a comparison of the one condition of the cerebral functions with the other, can impart the knowledge sought after. But an acquaintance with phrenology and the physiology of the brain is the same.

After pronouncing it impossible to give a definition of insanity that shall include every form of the complaint, and pointing out the errors of writers who have made the attempt, the doctor thus expresses his own views on the subject.

'Instead, therefore, of following the common practice, I shall only state, generally, that the existence of insanity implies morbid action in one, in several, or in the whole of the cerebral organs, and, as its necessary consequence, functional derangement in one, in several, or in the whole of the mental faculties which these organs subserve, and proceed to consider by what symptoms these conditions may be recognised.

'In investigating the nature of insanity, the first caution to be observed is not to confound disorders of mental functions with natural qualities, which sometimes strongly resemble them. Many men in the full enjoyment of health are remarkable for peculiarities of character and idiosyncrasies of thought and feeling, which contrast strongly with the general tone and usages of society, but they are not on that account to be held as insane, because the singularity for which they are distinguished is with them a natural quality, and not the product of disease; and, from the very unlikeness of their manifestations to the modes of acting and of feeling of other men, such persons are, in common language, said to be *eccentric.* It is true that, on the principle already explained, of excess in size of some organs over the rest being favorable to the production of insanity, eccentricity involves, all other things being equal, a greater than usual susceptibility of mental derangement; but still it is not mere strangeness of conduct or singularity of mind which constitutes its presence. *It is the prolonged departure, without an adequate external cause, from the state of feeling and modes of thinking usual to the individual when in health that is the true feature of disorder in mind,* and the degree at which this disorder ought to be held as constituting *insanity,* is a question of another kind, on which we can scarcely hope for unanimity of sentiment and opinion.'

In doubtful and controverted cases, then, the mental manifestations of the individual suspected of madness must be compared, not with the manifestations of other individuals, but with his own, as they existed at a former period. If, without a satisfactory cause, the person differ widely and permanently from himself at a previous time, the evidence is strong, that his intellect is unsound — the more especially if he be hereditarily predisposed to insanity, and has attained about the same age at which his ancestors had become deranged.

But we find that to proceed thus in detail through the present and each of the remaining chapters of the volume before us, would extend this review to an inadmissible length. We shall therefore pass over Chap. VII, VIII and IX, with a general expression of our approbation of them, and our concurrence in most of the views they contain. The reader will find in them matter to reward him for an attentive perusal of them.

Chap. X.—'*Prevention and Treatment of Mental Derangement.*' It will not be denied, that, as relates to its object, this is the most important chapter in the book. The others were philosophical—this is practical; they developed principles, which this applies, to relieve man from the heaviest calamity to which he is subject. But practice, being the consummation of theory and principle, gives them all their value, and therefore justly ranks above them.

The only certain way to prevent actual insanity, is to prevent the *predisposition* to it. For if that exist, exciting causes will not be wanting, to bring it to maturity, and develope the complaint. The most intractable predisposition is that which is *hereditary*. Every practicable effort, therefore, should be made to prevent it. Hence individuals of two families, in both of which there is an hereditary taint, should never intermarry. The violation of this rule should be shunned, as a great evil, if not as a crime. If the hereditary tendency exist in but one ancestral line, the offspring *may* escape the malady. But if both be affected, its transmission is almost inevitable. The case, however, should not be treated as altogether desperate. The children of parents predisposed to madness should be so disciplined, from their infancy, as to strengthen the constitution generally, establish as much as possible an equilibrium between the organs of the brain, and lessen the irritability of the system, which is usually in excess. The phrenological physiologist will be at no loss for the best means to effect all this. And none but such a character can duly appreciate them. To detail them, therefore, at present, would be useless.

The next strongest and most threatening predisposition to madness arises from the predominant development and excitability of one or more of the cerebral organs. This destroys the balance of the brain, and endangers its soundness. Here, prevention consists in diminishing the functional excitement of the predominant organs, and increasing that of the weaker ones. This form of discipline, commenced early, and long and steadily pursued, may prevent an actual explosion of disease. The means and the mode of using them are familiar to the phrenologist. Under this head we shall only add, that the prevention of madness, like that of every other complaint, is to be effected chiefly by an avoidance of exciting causes. But the most powerful of these having been already enumerated, need not be again recited.

In commencing the consideration of the treatment of madness, our author correctly remarks, that, when recent, it is as tractable as the morbid affections of other important organs of the system; and he adduces high authority in confirmation of his belief. As individuals, we would not have differed from him materially in opinion, had he assumed stronger ground, and alleged, that insanity, if attacked at an early period, is more easily subdued than many other complaints deemed less obstinate. No part of the system is more accessible to remediate impressions than the brain; and certainly no other part is susceptible of so many kinds of impression. Being the centre and seat of all sensation, it feels every impression, whether external or internal, that the body receives from medicinal agents.

Nor is this all. It is also the seat of a numerous and important class of intellectual and moral impressions, which are powerful in their influence both for good and evil. And this influence is expended chiefly on the brain itself, other parts of the system being secondarily, and comparatively, but slightly affected by it. The seat of madness, then, being so easily reached by the action of remedies, and at the same time so susceptible of it, there is no reason why that complaint, at its commencement, should not yield as readily to skilful and vigorous treatment, as any other. And experience demonstrates that it does so. We are assured that, in an asylum for insane persons, in our own country, cures are performed, in recent cases, in the proportion of *twentyone* out of every *twentythree*, or in more than *ninetyone* in every hundred. We need scarcely add, that success like this is highly encouraging, and divests the disease of much of its terrors.

Our author enforces the tenet, and it cannot be too strongly and universally enforced, that mental derangement is analogous in its nature to other diseases, and must, therefore, be treated on analogous principles. It consists in a morbid condition, structural or functional or both, of the brain; and that condition is induced like similar conditions in other organs. Let its character be ascertained, and, as far as possible, its precise seat also, and the course to be pursued respecting it becomes plain. It is to be removed by means precisely such, as would be applied to the removal of a similar affection, in any other part of the system. Is the action excessive? it must be reduced. Is it deficient? it must be increased; and if perverted, let it be changed. And the means, we repeat, of thus altering action are the same that would be used, in altering similar action in any other portion of the body. Such is at once the result of experience and the dictate of common sense. This view of the subject divests insanity of all mysticism and exclusiveness, and introduces it into the family of corporeal complaints. It takes from it all that is abstract, metaphysical, or spiritual, and shows its origin to be as truly material, as that of perepneumony, opthalmia, or gastritis; and that its treatment, to be successful, must be governed by the same principles which direct the treatment successful in them. After remarking that idiocy, or a want of intellect, from a defective development of the brain, is incurable, our author says;

‘But if great imbecility or dementia occurs as a symptom of a weakened condition of the brain, consequent, for instance, on too debilitating a treatment of mania, on fever, loss of blood, starvation, or any other debilitating cause, then a tonic treatment, and a well regulated application of stimuli are required, and may be successful even after several years of marked fatuity. But if the same mental condition supervenes on mania, as its natural termination in disorganization of the brain, cure by any means is utterly hopeless. Correctly speaking, however, these various causes of dementia constitute distinct diseases, having dementia for a symptom, and on this account alone require appropriate means of cure. Attention to the bowels, tonics, good diet, dry warm habitations, pure air, exercise, rubefacients to the spine, setons, stimulating lotions to the head, aromatic baths, &c, constitute the general remedies for curable dementia, each of course being selected in reference to the proximate cause. Long perseverence in their application ought always to be encouraged, where we are not certain that disorganization exists. Moxas applied to the head or neck have succeeded in removing dementia of considerable standing in several instances, but being extremely energetic when applied to the head, and having even caused fatal encephalitis, they must be resorted to with great caution.'

Respecting the treatment of other forms of mental derangement, we have the following remarks.

'Mania and monomania, in all their forms, are more frequently the results of a cerebral state, characterized by increased vascular action than of any other, and it then admits of active and successful medical treatment, particularly in its earliest stages. It is in such circumstances, that in young and robust subjects, bloodletting is often very beneficial, although, from its indiscriminate employment, in all kinds of cases, it had at one time fallen into unmerited disrepute. Pinel almost proscribed it, and Esquirol is of opinion, that it is rarely admissible, and often hurtful; while Spurzheim, Georget, Broussais, Frank, and others, think that it only requires discrimination in its employment to become a very valuable remedy. When severe headache exists more on one side than the other, Esquirol strongly recommends local bleeding, by leeches to the temples and behind the ears. Broussais goes still further in his recommendation, and not only applies leeches in greater numbers, but repeats them for days in succession, and thus occasionally cuts short an attack. I have seen the very best effects follow cupping and then leeching, where great restlessness, accompanied with fulness and redness of the integuments, and other unequivocal signs of vascular excitement, were present. In one instance the delusion of several weeks', or rather months' standing, was removed in the course of a few hours, and the expression of the face entirely changed.'

Again;

'I have seldom had occasion to see or recommend general bloodletting in pure insanity; but I have observed more decided benefit from repeated and free local bloodletting than from any other means, and therefore consider it, taken in conjunction with a suitable regimen, and the use of other auxiliaries, as an extremely valuable remedy in the particular class of cases to which it is adapted, viz. those of vascular excitement.'

In corroboration of these views, Dr Burrows states, that he cannot recollect a *single case* of madness, in which the abstraction of blood, either from the head or neighboring parts, has not been distinctly indicated; and he repeats it without hesitation, so long as fresh excitement continues. But *general* bloodletting is neither so successful nor so safe a remedy.

Active and repeated purging, and the warm bath often applied and long continued, are recommended as remedies of great efficacy. M. Esquirol, of the Salpètrière in Paris, often keeps the insane in the bath from two to eight hours in the day, and applies occasionally cold water to the head, at the same time, with the happiest effects. The reason of this practice must be obvious to every one acquainted with the laws of the animal economy, and the pathology of madness.

We regret that a want of room forbids us to present the reader with any further extracts from this chapter, especially from that portion of it which contains our author's views on what is called the *moral* treatment of the insane. Here, as elsewhere, he manifests a mature and discriminating judgment, with a large amount of practical knowledge. He no where dogmatizes, or deals in authoritative precepts. He expresses opinions and recommends rules of practice, and gives solid reasons for them. He shows that, in cases of excessive action, moral treatment consists in giving *rest* to the *excited* organs of the brain, and suitable exercise to the others; and in *stimulating* organs whose action is *deficient*. This is analogous to the treatment of other diseased parts of the body. Is the part inflamed? reduce its excitement by rest, or by evacuations general or local. Is it paralyzed? stimulate it to action. Rest operates on excited cerebral organs precisely as it does on an excited eye, muscle, or stomach; and moral and intellectual impressions are to the former, what light, electricity, and aliment are to the latter — they awaken them to action.

Such are a few of the lights, which Dr Combe has drawn from his phrenological stores, to shed them on the philosophy and treatment of insanity. Believing them, as we do, to be peculiarly valuable, as well as new to most of the profession, it is matter of regret to us that we cannot give more of them. But we are prohibited no less by a want of leisure than by the prescribed limits of this paper. We trust, however, that the *physicians* of our country will soon have an opportunity to peruse our author's entire work, in an American edition of it. Our booksellers are daily republishing European books. And we venture to say, that few medical productions, equal in value to that we have been examining, have issued from the British press, during the present century. We will not say, that it *opens* a new era in the science of mental derangement; because the statement would be incorrect. But we do say, that it will aid materially in *brightening* the era, opened by the labors of Gall and Spurzheim.

Will it be alleged that the views expressed and the principles defended by Dr Combe may be found in the writings of physicians, who are not phrenologists? We reply, that such a sentiment, by whomsoever advanced or maintained, would be unfounded. That views and principles of the kind may be advocated by a writer, who, *in words* opposes the Phrenology, is true — True; the thing has been done. But it has been disengenuously done. The doctrines of our author are purely phrenological. None such had ever been inculcated, before the discoveries of Gall and his Pupil. The reason is plain. Before those discoveries, neither the *anatomy* nor *physiology* of the brain (the exclusive foundation of Dr Combe's production) was understood. In so far then as other writers have adopted the principles contended for by the Doctor, they are substantially Phrenologists, whether they acknowledge the fact, or deny it. And to deny it is discreditable to them.

To denounce Phrenology, as many have done, and still resort to it, as a source of knowledge, bespeaks in them either ignorance or great dishonesty; ignorance, if they do not know from what source their information is derived, and rank dishonesty and injustice if they do. The dilemma is thus prepared for them, and they cannot escape it. But one privilege is left them —to select the horn on which they are to be impaled. Through the envy and other evil passions of his cotemporaries, Gall has shared the fate of most discoverers. The truth of his discoveries was first denied; and, since it has been confirmed, efforts have been made to rob him of the honors of them.

To conclude. In this age of revolutions and improvements in science, so greatly surpassing all preceding ones, the mightiest and most important and eventful, is that produced by the discoveries of Gall. That they have disclosed the anatomy and physiology of the brain, so deeply and darkly concealed before from all inquirers, is not now denied. Of course, it is no less true, that that disclosure is alone calculated to lead to a correct knowledge, philosophical and practical, of the pathology or diseases of the brain, of which insanity is one. As the brain, moreover, is the commanding organ of the whole system, a thorough knowledge of it throws much light on the health and diseases of other organs; and thus is the entire science of medicine improved. Nor are the lights and revolutionizing influence of Phrenology confined to medicine. They dispel darkness and mysticism from the whole philosophy of man, moral and intellectual, as well as physical, and thus enable him to look into himself as easily as he looks at external nature. He will ultimately, therefore, so far comprehend his own faculties and their relations, as neither to waste his time in attempts to achieve by them impossible things, nor in trials to improve them, by unsuitable schemes of discipline. It is by education made perfect that man is to attain in all things, the highest perfection of which he is susceptible. And Phrenology is the true and only fountain of that scheme and degree of education, which can be no further improved. Nor do the benefits of the science terminate here. They extend to family concerns and comforts, commerce and the arts, both mechanical and liberal, courts of justice, halls of legislation, bureaus of *executive* government, and every other department of social, civil, and political life, where man operates conjointly with his fellows, acts *on* them as subjects, or *by* them as instruments. In briefer terms, *it embraces every human transaction.* The time is, therefore approaching, when the illustrious founder of Phrenology, and his favorite Pupil, scarcely less illustrious, both of whom are now beyond the reach alike of justice and injustice, the censure and applause of their contemporaries, will be ranked by posterity with the greatest benefactors of the human race. And the opposition and abuse they encountered in their labors for the benefit of man will be matter of astonishment.

ART. II. — TRANSACTIONS OF LEARNED SOCIETIES.

ACADEMY OF SCIENCES. — *Session of Aug.* 6, 1832. The widow of Legallois petitioned the Academy to fulfil the promise made in 1829, to publish for her benefit the manuscript memoirs of her deceased husband. — M. Baudelocque addressed a letter to the Academy in relation to his newly invented *céphalotribe*, setting forth that the *modification* of the instrument by M. Gourdon was no *improvement*. — The minister of public works requested the Academy to designate, as soon as possible, a candidate for the chair of Natural History, made vacant at the College of France by the death of Baron Cuvier.—M. Arago informed the Academy, that for the purpose of reëstablishing his health, he was about commencing a journey to the Pyrenees. — A letter was received from M. Pelletier, acknowledging the superiority of the Academic titles of M. Dumas, and withdrawing his name as a candidate for the place of member of the section of chemistry, vacant by the death of Sérullas. — Broussais and Esquirol offer themselves as candidates for the place vacant in the section of medicine, by the decease of Baron Portal. The first read a memoir on the influence which physiological physicians had exerted on French medicine.

Session of Aug. 13. This sitting was mostly occupied with elections, various subjects of natural philosophy, and the reading of a memoir on the distinctive characters of the Siberian and Canadian castoreum. The sitting of Aug. 20 was appropriated to the chemical history of *méconine*, a new substance discovered in opium, in 1832, by M. Couerbe. The details of this article, being purely chemical, are omitted. At the meeting on the 27th, M. Amussat presented a synoptical table of lithotrity and lithotomy. The details are mostly historical.

ACADEMY OF MEDICINE. — *Session of Aug.* 7, 1832. After the reading of the correspondence, and the report respecting the health of M. Orfila, M. Guérin gave an account of the effects of the *Rhus toxicondendron* upon a gardener. The man was at first covered with a vesicular erysipelas. The head was prodigiously swollen, and he washed himself with vinegar whey. The erysipelas disappeared and was succeeded by the most frightful symptoms — such as syncope, acute internal pains, small pulse, cold sweat, foaming at the mouth, an extremely fetid odor, &c. Bleeding, diluent drinks and bathing were followed by a partial re-appearance of the eruption and a general amelioration of the symptoms. M. G. attributes these effects to the absorption of an acrid principle contained in the plant, numerous similar instances were related by different members of the Academy, and the cases of individuals were also cited who were insusceptible of the operation of this morbific influence.

M. Roman of Lyons seeing that all attempts for the more successful preservation of Leeches had hitherto failed, transmitted to the Academy at a former session, a note, attributing their mortality to inanition or to wounds, which when impelled by hunger they inflicted on each other, and proposing to feed them with sugar. The committee, to whom this subject was referred, reported that M. Roman was deceived in attributing the sanguineous discharges from leeches to their mutual bites, and that supplying them with sugar had not at all diminished their mortality.

The sessions of Aug. 21 and 25, were devoted to the preparation of a code of popular instruction for the treatment of the cholera.

Session of Aug. 28. Treatment of the cancer of the uterus by alum. M. Jacquot has proposed this treatment in several memoirs which the Academy have submitted to the examination of M. Récamier. The latter stated that from the time of reading M. Jacquot's first letter, he had been endeavoring to satisfy himself as to the certainty of that physician's diagnosis; that he had still some doubts in relation to it; that pains in the lower extremities were not constantly coexistent with cancer of the uterus, and beside, that having employed alum in well characterized cancers of this organ, although there was some temporary amendment, the disease had nevertheless, terminated fatally. M. R. stated further, that cancerous breasts had been manifestly improved by the use of a solution of alum, containing a small quantity of camphorated alcohol. In one case of this kind, though the disease was not cured, its progress was arrested, a painful affection of the stomach, exhibiting some signs of cancer of that organ had been cured by alum pills.

ACADEMY OF SCIENCES. *Month of Sept.* 1832, — *Session of Sept.* 9. After the transaction of business relating to the presentation of candidates for the place of Portal, a report was read by Dupuytren on Desgenette's *Medical History of the Army of the East.* The remaining sessions of this month were mostly occupied with elections, and with subjects of local interest.

Month of October, 1832. *Session of the* 1*st.* M. Heurteloupe presented a new memoir on the destruction of calculi in the bladder by percussion, accompanied with the relation of nine new cases of cure by this process. Joined to this work, are the certificates of celebrated surgeons, such as Sir Astley Cooper, M. Brodie, &c, who witnessed the operations. The bed and other operating apparatus were deposited in the library of the Institute for the inspection of members of the Academy.

M. Legrand presented a printed memoir by M. Chrestien on the use of milk as a remedy and as an aliment in the treatment of ascites. Since the publication of this work, M. Legrand stated that he had given milk in two cases of ascites with entire success. One of them was accompanied with water in the chest and pericardium, and both cases were symptomatic of disease of the heart. A great variety of diuretics had been previously, but unsuccessfully administered. The same effect followed the use of several glasses of fresh milk taken in the morning, in two cases of general œdema, accompanying convalescence from cholera. Dr Kapeler had been successful in curing ascites in a patient suffering with chronic inflammation of the intestines.

Maniacal Illusions. M. Esquirol read a memoir on this subject. In 1817, the same gentleman presented the Academy a similar memoir on maniacal hallucinations. This distinguished observer of the 'mind, diseased,' makes the terms *illusion* and *hallucination* descriptive of two morbid conditions differing essentially from each other, both in their causes and their phenomena. The latter he considers a purely intellectual operation, that is, the morbid manifestations are confined to the brain, having neither connexion with nor dependence upon the external or internal senses. The whole process originates and is carried on in the excited brain, without the intervention of the senses, and independent of any sympathies with the rest of the body. *Illusions,* on the other hand, depend upon impressions on the sentient nervous extremities and re-action of the cerebral centre. The senses are active, and their impressions solicit the re-action of the brain. Two conditions are necessary for the correct perception of a sensation; — the integrity of the organ which receives the impression, and the integrity of the instrument which re-acts upon this same impression. Illusions of the senses are not rare in a state of health, but reason corrects and dissipates them. If the sensibility and activity of the bodily organs are impaired, it is evident that impressions made on the senses by external objects will be modified, and if at the same time the brain is in a pathological state the errors of the senses will not be rectified. Hence maniacal illusions. The following cases were related by M. Esquirol in illustration of the preceding remarks.

First class of cases, depending upon perturbations of organic sensibility or internal sensations.

The skin of some maniacs is dry, arid, burning, &c, and its functions are imperfectly performed. These persons are comparatively indifferent to the greatest extremes of temperature. Pired speaks of a maniac who took great delight in rubbing his chest with snow.

Observation 1st. The famous Térouane de Méricourt lived at Salpétrière for ten years in a state of insanity. Before getting into her bed, morning and night, she poured into it a considerable quantity of cold water, to obtain which she would sometimes break the ice of the fountains. This cutaneous irritability of the insane is in some instances so acute that they think themselves violently struck and injured by the slightest contact with foreign bodies. There is at Charenton a maniac, who, when a finger is pointed towards her, is thrown into great distress and agitation, crying out, '*Do not strike me! do not strike me!*'

Observation 2nd. An officer, aged 27 years, of an athletic figure and sanguine temperament, was attacked with intermittent fever during the Prussian campaign. A large glass of brandy in which had been infused the powder of two cartridges was given him, and he immediately became insane. He tore everything that he could get hold of to pieces, and it became necessary to leave him nothing but straw to rest upon. Feeling himself pricked, he arranged the straw in a circle around him, leaving a clean space in the centre where he placed himself. He then agitated and turned his head in all directions, blowing continually upon the straw which surrounded him, and shouting from time to time as if for the purpose of driving away some frightful and menacing objects. He remained in this state, night and day, during more than three weeks, when it was ascertained that he took each blade of straw for the bill of a bird of prey which had wounded him.

Observation 3d. A girl aged 18 years, in good health, was attacked, after the events of 1815, with a fixed pain in the summit of the head. She soon persuaded herself that she had a worm in the cranium, devouring her brain. The sight of copper occasioned a feeling of faintness, and her friends were obliged to remove all gilt furniture from her apartments. It was with the greatest reluctance that she consented to walk in the open air, on account of the dust appearing to her to be charged with oxide of copper. Nothing could induce her to touch a gilt candlestick or the cock of a fountain. Having gained the confidence of this young patient, I assured her that I could destroy the worm that was the cause of so much suffering, if she would submit to an operation. After one of my visits she made an incision in the scalp with a knife. She became faint at the sight of blood and I was sent for. I found her perfectly willing to undergo the operation which I had proposed. The family physician was sent for and a crucial incision, two inches in extent, was made upon the painful region. We showed to her a shred of fibrine, which, we assured her, was the offending worm. An issue was established where the incision was made, and the fixed pain, the illusions and the fear of verdigrise disappeared together.

Observation 4th. In this case an illusion similar to the above was treated in the same manner and with like success. Thirtysix hours after the operation, the associates of the patient laughed at her for her credulity and told her that she had been cheated by the physician. She immediately tore away the seton that had been left in the scalp and the pains together with the illusions returned.

Observation 5th. The General of a division, between 50 and 60 years of age, had suffered for some time with rheumatism, and in consequence of strong mental agitation was seized with furious mania. Occasionally he had toothache, the cause of which he attributed to the sun. When the pain was severe the General uttered the most frightful cries, addressing the sun with imprecations and threatening to exterminate that luminary with his brave division. At times the pain would fix itself in one knee. The patient would then seize the painful part with one hand, striking it violently with the other, and exclaiming, '*aha! villain, you will not get away from me now!*' He supposed that he had caught a robber in his knee.

Observation 6th. A woman, aged 30 years, with a strong constitution, became hypochondriacal in consequence of deep chagrin which deprived her of sleep. She imagined that her brain had become petrified. Illusions frequently originate in gastric, intestinal and other internal pains.

Observation 7th. Ambroise Paré says that he cured a hypochondriac who imagined that he had frogs in his stomach, by giving him a purgative, and then introducing by stealth some small frogs into the vessel which received his dejections. M. Esquirol examined the body of a woman who had been afflicted with lypemania — monomania with melancholy — and who said that she had an animal in the stomach. There was a cancer of this organ.

Observation 8th. There is at Salpétrière a woman who for many years has been afflicted with abdominal pains. She asserts that she has in the belly an entire regiment. When the pain is severe she becomes irritable, cries and affirms that she can feel and is wounded by the blows inflicted on each other by the soldiers.

Observation 9th. A woman, about 57 years old, had been porteress at the convent of Notre Dame, and was a great devotee. The events of the revolution concurred with the cessation of her menses in rendering her insane. She was removed to Salpétrière where she lived a great number of years, she was short in stature, with a large, short neck, a large head and very fat. She was habitually quiet and was employed in sewing. She talked continually on religious subjects, and was called in the hospital, *mother of the church.* She believed that her abdomen contained all the personages of the New Testament, and sometimes those of the old. She would frequently say, '*I cannot endure this any longer, when will they make peace in the Church?*' When the abdominal pains were exasperated she would repeat with the most perfect composure, '*To day they are crucifying Christ; I hear the blows of the hammer driving the nails.*' She believed, also, that the Popes held councils in her belly. All attempts to dissipate these singular illusions were ineffectual. The body was examined after death, and the intestines were found glued together in a solid mass, in consequence of chronic peritonitis.

Observation 10th. A female monomaniac with chronic inflammation of the peritoneum imagined that her abdomen contained a large number of devils. Post mortem examination revealed pathological appearances similar to those in the preceding case, only less extensive.

Irritation and pain of the organs of generation are the causes of illusions, especially among insane females. Erotic monomaniacs frequently experience the sensations, connected with the indulgence of their morbidly excited propensities. Wandering pains in the limbs to which the insane are subject sometimes give rise to the most painful illusions.

Observation 11th. A medical student, 20 years old, was attacked with mania, caused by the presence of worms in the intestines. He suffered the most atrocious pains, which he imagined were produced by the penetration of arrows, especially into the palms of his hands and the soles of his feet. The pains and the insanity ceased with the expulsion of the worms.

Observation 12th. There is at Charenton a monomaniac who imagines that he is transported every night into a vault under the Opera, where knives and poniards are thrust into his back and chest. His tormentors sometimes cut off an arm, sometimes a thigh, and at others his head even. When he is requested to observe that his head is on his shoulders, that he is still in possession of his limbs and that his body exhibits no trace of any cicatrix, he replies, '*They are villains, magnetizers, freemasons, who have the secret of replacing the members.*' If the point is insisted upon, '*You are joined,*' says he, '*with these monsters, these brigands; kill me! kill me! I cannot endure the sufferings which their cruelty inflicts upon me.*' The father of this monomaniac and his former patron are regarded by him as the chiefs of the band at whose hands he thus suffers nightly martyrdom.

Second class of cases, depending upon perturbations of animal sensibility, or impressions made upon the external senses. The maniac hears some noise; he immediately imagines that some one speaks to him and answers according to this notion.

Observation 13th. A laborer, aged 31 years, lost his employment and was reduced to want. While travelling to Paris, he suddenly threw himself from the diligence, threatening his fellow travellers, who had, he said, ridiculed his poverty. Arrived at Paris, he did not dare to leave the house, seeing in all whom he met, spies and agents of police, ready to arrest him. This young man was perfectly calm and rational on every other subject. Hearing the steps of several persons ascending the stairs of the house in which he lived, and supposing they were coming to arrest him, he seized a razor and attempted to cut his throat. He admitted, an hour afterwards that his sole motive was to save himself from arrest and the infamy of the scaffold.

Observation 14th. A General of a division, aged 46 years, married and passed from a very active to an idle and luxurious life. One year afterwards, he became jealous and imagined every person whom he saw was to be the seducer of his wife. While walking with Esquirol at Saint Cloud, he suddenly broke off from a very regular conversation, exclaiming, '*Do you hear them? do you hear them, crying coward, cuckold, &c.?*' This illusion was produced by the noise of the leaves and branches of trees agitated by the wind. The illusion returned every time that the sound could be heard.

Observation 15*th.* Esquirol attended a lady who was excessively frightened by the slightest noise, especially during the night; the lightest step, or the noise of the wind made her tremble. The noise which she made by moving in her bed so frightened her that she would jump from it, screaming with terror. She could sleep only when the chamber was kept lighted and when some person was with her. Illusions of vision among the insane are still more frequent than those of hearing.

Observation 16*th.* A young husband became furious whenever he saw a lady walking with a gentleman, convinced that the woman was his own wife.

During his convalescence he visited the theatre, and a lady entering the saloon with a gentleman, he exclaimed with great animation, '*There she is! there she is!*' It was necessary to remove him.

Observation 17*th.* A female, aged 23 years, was attacked with mania in the summer. She remained constantly at the window of her apartment, and whenever she saw a beautiful cloud insolated in the air, she shouted with a loud voice, '*Garnerin, Garnerin, come and seek me!*' continually repeating the same call till the cloud disappeared. She took the clouds for balloons mounted by Garnerin. An officer of cavalry imagined the clouds to be an army led on by Bonaparte for the purpose of making a descent upon England.

Observation 18*th.* There is at Charenton an old professor who preserves in the fireplace of his room an enormous quantity of small stones, to which he attaches a great value. He distributes them as premiums of great price, and is irritable and sad when they are taken from him. Another maniac collects large quantities of stones, snail shells, pieces of glass, &c, for the purpose of making, as he says, a rich collection in natural history. He accuses of ignorance those who doubt the beauty and variety of his specimens.

Observation 19*th.* Madam C. having previously been subject to hysterical insanity, during the last six years of her life collected flints, filling her drawers and closets with them. She occasionally gave some of them to Esquirol praising their size and value, and requesting him to transmit them to the king in order to improve the financial concerns of the state.

Observation 20th. A gentleman attacked with hypochondriacal insanity was continually walking about his room and striking the furniture with a cane. It was ascertained that he mistook the shadows falling upon different parts of the room for rats.

Observation 21st. Esquirol attended a young lady of an active imagination and devoted to literature and the arts. She became insane and passed her nights in sleeplessness, ravished with the fine pictures which she beheld traced upon the curtains of her bed and windows. She expressed in strong language her delight and admiration. She was enabled to sleep only by removing all light from her room.

Observation 22nd. A monomaniac during the warm season was in the habit of dining in the open air. When asked by his domestics to drink, he very impatiently and bitterly replied, '*Do you wish me to swallow my brother?*' He saw his own person reflected from the glass, and believed it to be his brother corked up in the bottle. Four other cases are cited by Esquirol, illustrative of illusions depending upon derangement of the different senses. We pass them over with the exception of the last, which is given as an instance of illusion in regard to the weight of bodies, the false judgment in this case giving rise to a notion somewhat ludicrous.

Observation 27. A lady very much debilitated by a labor and by sanguineous evacuations, made to combat an access of mania, was afflicted with obstinate constipation. Injections were prescribed, and the patient insisted upon administering them herself. As soon as the syringe was put into her hands she flung it from her with horror, and the same thing was several times repeated. She afterwards asserted that the instrument appeared to her so heavy that she believed it to be filled with mercury, and that it was the intention of her attendants to convert her body into a barometer.

From the foregoing observations the author of the memoir concludes that illusions are excited by the internal and the external senses, as often by the former as by the latter; that they are the result of the action of the sentient extremities and the re-action of the nervous centre; and that illusions cannot be confounded with hallucinations, since in the latter the brain only is excited.

Session Oct. 8. Abel Brandin, professor of medicine at the University of Quito presented a work entitled, '*The influence of the different climates of the universe on organized beings, and particularly the influence* of *the various climates of South America.*' M. Breschit presented three very long and elaborate manuscript memoirs upon the different kinds of aneurism.

Sessions of Oct. 15*th* and 22*nd*. M. Leroy d'Etioles reported the case of patient, 79 years old, relieved of a large urinary calculous by lithotrity.

Dupuytren, in behalf of the section for the distribution of surgical premiums, made a report relative to the prize of 6000 franks for the best treatise on *orthopedy*. In 1830, the Academy proposed as a subject for the above prize this question, — *To determine by a series of authentic facts and observations, the advantages and disadvantages of mechanical and gymnastic methods in the treatment of deformities of the osseous system.* The object of the Academy in proposing this subject was neither to exalt nor depreciate, exclusively, the above means of cure, but as the terms of the proposition expressly state, to obtain an enlightened comparison, an exact and conscientious appreciation of their *benefits* and their *inconveniences.* The report stated that no one of the memoirs presented had fulfilled this design. He recommended that the term for awarding the premium be extended to Jan 1st. 1834, and that the prize be increased to *ten thousand franks.* The report was adopted.

Session of Oct. 29*th.* At this meeting was decided one of the most important elections that has for a long time come before the Academy — that of a member to fill that place in the section of medicine and surgery vacant by the death of Portal. The greatest interest had been long manifested in the issue of this Academic rivalry. The three leading candidates were Double, Breschet and Broussais. At the third ballot Double received 26 votes and Breschet 24, the Broussaissains voting for the latter. The election was considered, in some sort, a test of the popularity of the physiological doctrine.

The transactions of the Academy of Medecine for September and October related mostly to the epidemic cholera and we, therefore, omit them.—

ART. III. — EFFECTS OF IODINE ON THE EPIDERMIS AND HAIR.

MESSRS EDITORS, — Should the facts embraced in this communication have escaped the notice of medical men, and should they seem worth preservation, you will oblige me by giving them an insertion in your magazine.

In the case of a patient whose leg it became necessary to amputate in the winter of 1831 and 32, on account of a scrofulous affection of the ankle joint, all attempts at producing a smooth and useful stump were for a considerable time baffled by some ulcers of a strumous character, situated over the tibia. With a view to bring the constitution to a more healthful standard, and thereby heal these troublesome sores, Iodine was prescribed. Before, however, the character of the ulcers had altered, and within a fortnight from the time he had commenced the use of Iodine, the patient observed to me that his scalp, which for a long time before had been very dirty from an accumulation of dandriff, had become quite clear of scales, and that his hair, which had been dry and of a dingy appearance, had now assumed a beautiful gloss, and felt softer than ever.

This observation led me to remark a like change in other patients who were taking the same medicine for scrofula. And it may be worthy of notice, that while the hair and epidermis of the scalp were rapidly improving, no favorable alteration seemed to be effected in the character of the strumous tumours and ulcerations.

All these patients were confined to a milk diet, and to the use of Iodine in solution, according to the formula of Lugol, which is subjoined.

Iodine	gr. v.
Hydriod. Potass.	gr. x.
Aquæ distil:	ʒ xiv. mix.

Dose, 6 drops twice daily, gradually increased to 40 drops.

I would likewise observe that I have derived much benefit in the treatment of the scalp eruptions, as also in Herpes, Scabies, Impetigo, Mentagra and some forms of Porrigo, from the use of Lowe and Reed's Chloride of Soda frequently applied to the diseased surface, in the proportion of one part Chloride of Soda, to five parts of rain water.

Yours, respectfully,
C. H. STEDMAN.

United States Marine Hospital,
July 22d, 1833.

ART. IV. — ON THE INFLUENCE OF PHYSICAL AGENTS ON LIFE.

By W. F. EDWARDS, M. D. F. R. S. — *with Notes* By DR HODGKIN, London.

THIS work was translated from the French in 1832, by Drs Hodgkin and Fisher of London. It has not been reprinted in this country, and as it contains much valuable information in regard to the influence of a variety of physical agents on life, a faithful analysis of its contents may not be unacceptable to the American physicians.

Different parts of this work were presented at different periods to the Academy of Sciences of Paris, and the author was rewarded with the honorable distinction of the physiological prize. This is presumptive proof at least, of the merit of the work. It is a valuable work and will confer lasting honor upon the author.

Dr Edwards's portion of the book is divided into four parts. The first contains his researches upon the influence of air, in its conditions of quantity, motion or rest, density or rarity — of water in a liquid state or in a state of vapor — of temperature, as modified both in degree and duration — of light and electricity, upon the batrachian reptiles. The second part relates to the influence of the same agents upon fishes and reptiles — the third upon warm-blooded animals — and the fourth upon man and the vertebral animals.

It is known that the batrachian reptiles possess the very singular power of living a considerable time after the excision of the heart. In order to ascertain whether asphyxia depended in any degree upon the influence of the medium (air or water) in which it may take place, the Doctor '*cut out the heart of four salamanders of the species Triton, removing also the bulb of the aorta. He exposed two to the air, and immersed the other two in water of the same temperature, which had been* *deprived of air by boiling. In about four or five hours the salamanders in the water appeared dead, but that life still existed was rendered evident when they were removed or pinched; one died in eight hours, the other in nine. Those in the air lived from twentyfour to twentysix hours.'* This experiment proves that air in composition with water has a superior vivifying influence upon the system independent of its action by means of circulation and respiration. That air has a beneficial and water a deleterious influence upon the nervous system is proved from the fact that if a frog, deprived of its heart, is plunged into water, all appearance of life instantly ceases, if thrown out and exposed to the air, its motion and sensibility revive.

The Doctor strangled six frogs by tying a piece of bladder around their heads, so as to exclude the air. At first they were paralyzed, but afterwards recovered and lived from one to five days, while the same number in water were dead in ten or twelve hours. The same experiments were performed on salamanders, and one of them lived twelve days, when his head became gangrenous.

There are numerous instances recorded of toads being found enclosed in wood and blocks of stone, where they must have remained alive for a great length of time. In these cases they must, however, have had some communication with the external air. Dr Edwards proved that the duration of life in frogs and salamanders was longer when imbedded in sand or plaster, than when exposed freely to the air; and he accounts for this from the fact, that in the latter situation there is a greater loss of fluids by perspiration. He exposed some frogs to the air in dry vessels and buried others in dry sand. He then weighed them at intervals of two, three, four, and five days. He uniformly found that those in the air lost more than those in the sand. Comparative experiments were made on toads in air and plaster, and the difference was more striking than in the sand.

In examining the influence of temperature upon the life of frogs, it was ascertained that they lived longer in water in the winter season than in summer. Spallanzani observed this fact, but he did not investigate the subject. The temperature about zero appears to be the most favorable to the life of frogs immersed in water; but they cannot survive immersion when the temperature is as high as that of warm-blooded animals.

Dr Edwards in his investigation upon the influence of the seasons upon the life of the batrachians, was led to this remarkable fact, that these animals were able to live twice as long in winter as in summer in water of the same temperature.

After trying experiments to ascertain the effects of limited quantities of stagnant, of aerated and running water upon the life of frogs, the author says;

'There are, then, three conditions having a powerful influence on their existence: 1st, The presence of air in the water: 2d, The quantity or the change of water: and 3d, Its temperature. The relation of these three causes deserves particular notice. We have examined the first with great attention, and have proved that the air in the water could maintain the life of batrachians immersed in that liquid. But how does the temperature act in this case? Since the air is the principal condition for prolonging their existence, one might suppose that the elevations of temperature acts by diminishing the quantity of air.'

It was ascertained by Humboldt and Provencal that the water in the *Seine* contained the same quantity of air in summer as in winter. Dr E. found that the temperature of the water varied from the month of September to that of February at least from 32° to 61° or 62° Fahrenheit. It is the temperature, therefore, and not the quantity of air which varies; and to the former is to be attributed the variation in the effects. Humboldt ascertained that the water of the *Seine* contained only $\frac{1}{38}$ part of its bulk of air; running water is more aerated than that which is confined, and frogs will live longer in the former than in the latter. The quantity of air in water under 50° Fahrenheit is sufficient to support the life of batrachians, but it produces a remarkable change in their habits. The slightest noise produces a panic among frogs when they are in the air, but immersed in aerated water, they lose all their activity and become as sluggish as the tortoise.

In order to ascertain the influence of the atmosphere on the skin, it was necessary to suspend the action of the lungs. The Doctor, therefore, tied a ligature around the head of six frogs so tight as to exclude altogether the introduction of air into the lungs. He placed these animals on wet sand where the temperature was 43° Fahrenheit, and they all lived a considerable time, one of them for twenty days. It was thought that the ligature might have a tendency to shorten life, and the lungs of three frogs were extirpated. They did not appear to suffer much from this operation. They were placed on wet sand, the temperature 45° Fahrenheit; two of them lived thirtythree days, and the other forty.

These experiments prove that the influence of the atmosphere on the skin must be considerable, or it could not obviate the fatal effects of strangulation and excision of the lungs for so long a time. But does the air in this instance produce its vivifying influence by its action on the nervous system, or on the blood, or on both, through the medium of the skin? What is the comparative influence of aerated water and air? Is there any means of solving these questions? Experiments were performed on three frogs, and the rana obstitricans, to ascertain whether they would live if permitted to breathe by the lungs alone, excluding the atmosphere altogether from the skin. It was found that pulmonary respiration was not sufficient to support life. In his experiments to ascertain the influence of the atmosphere on perspiration, the Doctor found that frogs, hung in a draft of air through an open window, lost double the quantity of fluids in a given time, that those did which were placed in the interior of the room. He found, also, that the perspiration in dry air was from five to ten times greater than when it was extremely hurried, and that the influence of temperature upon the quantity of perspiration itself was much less than would have been anticipated; the quantity perspired at 68° Fahrenheit being scarcely twice what it was at 32° Fahrenheit, which resembles the effects obtained from a dry and still, compared with a humid atmosphere.

Upon the question of absorption of water through the external surface of the body, the Doctor proved that if a frog had lost a considerable portion of its weight by perspiration, and afterwards was put into water of the same temperature, it increased in weight till it arrived at the point of saturation. . In seeking for a solution of the question, when the body has arrived at a point of saturation, does it remain stationary, or does it undergo any further variation? — it was found that after the body had arrived at that point, there were alternate stages of diminution and of increase, but the increments do not pass beyond the point of saturation at which the diminution commences.

'It is evident,' says the Doctor, 'from what has been already stated, that when one of these animals is placed in water, the weight of his body will increase or diminish according as either of the opposing functions of absorption and transudation predominates over the other. It is interesting to determine what is the influence of temperature upon the relations of these functions. It appeared from experiment that at 32° Fahrenheit the absorption predominates over the loss of weight; while at 86° Fahrenheit the losses are greater than the increase by absorption. It was also observed that elevation of temperature in water had a marked tendency to augment the animal excretions.'

One of the most curious questions in physiology is, what influence do physical agents have on the transformation of tadpoles? Plenty of nourishment and warm weather hasten their transformation, and a small supply of food and cold retard that change. Tadpoles that are produced late in the summer pass the winter in a larva state, and do not quit it until the return of warm weather.

Dr E. ascertained that there was another influence which powerfully aided their transformation; this is atmospheric respiration. If tadpoles are permitted to rise to the surface of the water, and respire the air, they will soon undergo their metamorphosis. From these facts we must conclude that the young animals would retain their original form *under wàter*, if their nutriment was not too abundant and the temperature was low. There was one aliment, however, which the Doctor did not take into account; this was light. The tadpoles, used in his experiments, were placed in a tin box, and were secluded entirely from the light. He mentions this fact, and regrets that he had not time then to pursue the subject. The only animals that have, like the tadpoles, a double respiratory apparatus, lungs and gills, are the Axolott, the Siren and the Proteus; and as the Doctor remarks, it would be interesting to ascertain the united influence of increased nourishment, elevation of temperature, aërial respiration, and the presence of light on them.

In his experiments on fishes, Dr E. found that when they were put into water deprived of air, temperature had a similar effect on them that it had on the batrachians. At 104° Fahrenheit death took place speedily, and the duration of life was progressively augmented in proportion as the temperature was diminished to 32°. The duration of life goes on increasing with an increase of aerated water, the temperature remaining the same. If a fish is put into a certain quantity of aerated water, and is allowed to remain there till it has reduced the quantity of air, so that respiration becomes laborious, it will rise to the surface and take in air from the atmosphere. Sylvestre proved that fishes will live longer if allowed occasionally to inhale air directly from the atmosphere; and he concludes from this that they can breathe air.

But if fishes can breathe air, why will they not live out of the water? We know that they die quickly if removed from their watery element. Dr E. attempts to prove that death in fishes, when exposed to the air, is caused by the sudden evaporation of fluids from their bodies — and he succeeds in satisfying my own mind on that point. Their perspiration must be rapid on account of the extreme delicacy of their skin. The Doctor proves that if a fish loses by perspiration a fourteenth or fifteenth part of its weight, it is enough to ensure its death; and he likewise proves that they lose this in a very short time. Their loss of fluids must equal, however, their capacity of saturation. In conditions favorable to nutrition, their capacity of saturation may equal a third of their weight; but in unfavorable conditions it is so small that the least appreciable loss is sufficient to cause their death.

The sourian, the ophidian and the chelonian reptiles receive a vivifying influence from the action of the atmosphere on their skins, which concurs with pulmonary respiration to support life. Serpents and tortoises can live very well by pulmonary respiration alone, but lizards cannot. The extent of the lungs in the former is much greater than in the latter. Lizards, serpents, and tortoises cannot live in aerated water when enclosed in a solid body, on account of the thickness of their natural covering.

'The same cause has an equal influence on perspiration. We have seen that when toads are surrounded by a solid covering, they perspire much less than when their bare skin is exposed to the air. In like manner, lizards, serpents and tortoises, on account of the scales with which they are covered, perspire much less then the batrachian. From these differences, dependent on the coverings of the body, arises the variety which we observe in the duration of the life of these animals when deprived of nourishment. This diversity depends on the rapidity or slowness of perspiration, as is proved by the numerous and varied experiments which I have made on the duration of the life of the batrachians under different circumstances, with respect to perspiration, among which the effect of solid coverings was the most remarkable.'

The third part of the Doctor's work, on warm-blooded animals, is very interesting. He discloses some important facts in relation to the heat of young animals when compared with adults.

It has generally been the opinion — we believe almost universally — that as in young animals their nutritive and circulatory functions were more active than in adults, their temperature must be more elevated. This, however, the Doctor proves not to be the case. There are some young animals whose temperature nearly equals that of adults; but all mammalia that are born with closed eyes, and all birds without feathers, when removed from their mothers or from their warm nest, produce so little heat as to be in relation to the atmosphere in the state of cold-blooded animals. Dr E. does not believe that the state of the eyes has anything to do with the production of heat, only that it coincides with an internal structure influencing that function. The Doctor, after his investigations upon the power of producing heat in warm-blooded animals, comes to the following conclusion upon that important point, '*that this power is at its minimum at birth, and increases successively until adult age.*'

[To be continued.]

ART. V. — INFLUENZA.

[Continued from page 676.]

In 1557, an epidemic of the same nature prevailed in different countries. Fonseca says that in this year it infested Asia, thence came to Constantinople, and having spread itself all over Europe, afterwards attacked America, its course being westerly. Mercatus asserts that 'before the beginning of autumn 1557, it attacked all parts of Spain *at once*, so that the greater part of the population in that kingdom were seized with it almost on the same day.' Riverius has transmitted to us an account of this epidemic. Unlike that of 1510, it was fatal to many: in a small town near Madrid, Mantua Carpentaria, bleeding was said to be so fatal that two thousand patients died after it in September. At Alkmaer, in Holland, two hundred died of it in October.

The catarrhal epidemic fever of 1580 was distinguished by its complication with malignant fever or plague, as related by Forestus and Sennertus. The latter speaks of its ravages at the end of summer and the beginning of autumn over all Europe; in some parts of which, as in Paris, it was the *precursor* of the plague. It was in Sicily in June, at Rome in July, in August at Venice and Constantinople, in September at Hungary and Germany, in October on all the Baltic coast, in November in Norway, in December in Denmark, Sweden, Poland, and Russia; its course being from E. and S. to W. and N. Mercatus says that it raged also in Spain, and destroyed not a few. Grand Cairo lost a prodigious multitude the same year by the plague. It is a remarkable fact, and ought not to escape our notice, that France appears to have been the only country in Europe affected that year by the plague; and it appears also to have been the first to be visited by the epidemic catarrh, its precursor; so that Baldutius even dates its origin from France.

The influenza of 1658, of which Willis has left us an account, visited Europe and this kingdom *suddenly* in April, and after excessive heat in August was followed by a fatal epidemic fever.

Sydenham and Etmuller have described the epidemic catarrh of 1675, which began in Germany in September, and in England in October. Malta was afflicted by the plague the same year, from which it remained free till the last severe visitation of this scourge in 1813.

The epidemic catarrhal fever which raged during the autumn and winter of 1729, in the space of five months' time visiting almost every part of Europe, was very fatal in many large cities, such as Paris and London. Loew says that in the latter more persons died than at any one time since the plague of 1665, about one thousand being cut off weekly in September. In the beginning of winter it reached France. A few weeks after, it visited the upper part of Italy with great mortality. In February it afflicted Rome and the Rhine. Turin and Milan suffered extremely. It reached Naples in March, and after this disappeared.

The influenza of 1732-3 is described in the second volume of the Edinburgh Medical Essays, and by Huxham; and was so far remarkable that it affected the mucous membrane of the alimentary canal as well as that of the organs of respiration.—It spread over all Europe, and appeared also in America. It was first noticed about the middle of November in different parts of Germany. Edinburgh appears to have been the first place attacked in Britain, viz. on the 17th of December, and it raged at the same time in Switzerland, at Basle. It appeared at London and in Flanders the first week in January; towards the middle of the same month it reached Paris, and Ireland towards the end. Cornwall and Devonshire were visited about the beginning of February; few only were attacked at Plymouth, where Huxham practised so soon as this; but in March it prevailed on all sides. In February Leghorn was attacked, and near the end of it Naples and Madrid suffered. New England in America was invaded by the distemper about the middle of October, which travelled southward to Barbadoes, Jamaica, Mexico and Peru, much at the same rate as it had done in Europe. It appears to have been at Paris early in the year. 'Elle se manifesta, dit de Jussieu, à la suite de brouillards fétides, plus épais que les ténèbres de l'Egypte.'

The epidemic catarrh of 1733 was followed by those of 1741 and 1742; the first described by Haller, and the second by Sauvages and Huxham. In 1743, towards the end of April, Huxham says that it was general in England, and in the spring spread over all Europe under the name of 'influenza,' or 'grippe.' This epidemic was the *precursor* of the plague of Messina in Sicily the same year; and it was more fatal in the southern parts of Europe than in England, though it increased the deaths in London in one week to a thousand.

The next remarkable visitation of the influenza was in 1762; and an elegant description of it is given by Sir George Baker, 'De Catarrho Epidemico anni 1762,' who records its appearance in London about the 4th of April. Razoux, a physician of Nismes, has given an account of the same disease, which was epidemic in Europe generally in the spring. It attacked Breslau at the end of February; Vienna was visited in March, and Hamburgh in April. In Venice it was more fatal than in other places. It spared, however, Paris and the greatest part of France; nor can we find any particular cause for this exemption. Nismes most probably was visited; and Webster says that 'Toulon lost one third of its inhabitants by an epidemic in 1761.' The influenza of 1762 appeared sooner in London than in any other part of England, namely, the beginning of April. It was not observed in Edinburgh and Dublin till May; but in June it was general and severe, according to Sir G. Baker, being seen no where earlier than February nor later than July. It had prevailed in America the preceding year. It was not till July that it attacked the British sailors in the Mediterranean. It was immediately followed in London by an epidemic dysentery, which raged till November. While the influenza prevailed, the deaths in London scarcely exceeded the usual number. In Manchester they were even fewer than common; and at Norwich far more died of it than fell victims to the *more severe* influenza of 1743.

The next epidemic catarrh, in order of time, was that noticed in London and different parts of the nation by Dr Fothergill and some of his friends in the latter end of the year 1775. It was observed also in France, Holland, and Germany, and was supposed to be more fatal in those countries than in Britain.

The influenza of 1782 was general over England, Scotland, and Ireland, between the months of May and July inclusive. A full account of it is given in the second volume of Memoirs of the London Medical Society, by Dr R. Hamilton, which is the groundwork of the article 'Influenza' in the Edinburgh Medical and Surgical Dictionary; an account is also given in the first volume of Medical Communications by Dr Gray, compiled from papers in the British Museum, which is the basis of a like article in the Cyclopædia of Dr Rees. (See also the third volume of Transactions of the College of Physicians, London.)

The influenza of 1782 seems to have pursued a course from the east, not very different from that of the epidemic cholera which is now (1832) displaying its ravages in Great Britain and France. It is reported to have broken out in September 1780, and to have become very general in the crew of the Atlas East Indiaman, while that ship was sailing from Malacca to Canton. When the ship left Malacca, there was no epidemic disease in the place; when it arrived at Canton, it was found that at the very time when they had the influenza on board the Atlas in the China seas, it had raged at Canton with as much violence as it did in London in June 1782, and with the very same symptoms. In October and November 1781 it appeared in the East Indies; and was said to have attacked the British army while it was besieging Negapatam in November 1781. Its progress is stated by Webster to have been from Siberia and Tartary westward. At Moscow it prevailed in December 1781; at Petersburg in February 1782; and it was traced to Tobolski. It was in Denmark in the latter end of April. From the shores of the Baltic it spread to Holland and the Low Countries, and thence to England. London was said to be attacked sooner than the west and north; Ireland a few weeks later, and the south of Europe later still; for it prevailed in France in the months of June and July, in Italy in July and August, and in Portugal and Spain in August and September; seldom continuing longer than six weeks in any place.

The influenza of the spring of 1803 afforded an occasion for collecting a great number of notices from different parts of the country on the subject of this epidemic. The London Medical Society set a laudable example by proposing a set of queries to its corresponding members in a circular letter; and the sixth volume of 'Memoirs' contains reports from nearly sixty practitioners in England,' Scotland, and Ireland, as to the date of its first appearance, its symptoms, treatment, &c, in their respective neighborhoods. Dr Beddoes also interested himself very zealously on the same occasion, and procured various testimonies from his friends and others, which, to the number of one hundred and twentyfour, are inserted in the ninth and tenth volumes of the 'London Medical and Physical Journal.' These documents contain a mass of very useful information. This epidemic was observed at Paris and in other parts of France and in Holland some weeks before it appeared in London; and Dr Bardsley says 'the same length of time was occupied in its progress from the latter city to Manchester.' Its course seemed to be from S. to N. It was in Cork and Dublin before it reached the north of Ireland, immediately after a S.E. wind. An epidemic ophthalmia followed it in France, and a severe dysentery, such as had not been known for thirty years, in some parts of the United States, which it visited the same spring. It was observed to be *epidemic* in Sussex, and some of the counties in the S.W. as early as February; in Shropshire, Nottinghamshire, &c, in March; in Yorkshire and Lancashire in April; and at Sunderland in May. It was evident that there was a degree of progressive movement northward, by marking the time when it was at the height in each place; yet many of the accounts above alluded to inform us clearly that sporadic or solitary cases exhibiting the true characters of influenza, occurred in several places long before the disease became established, so as to manifest a universal tendency to that form of complaint over the country, in some cases weeks before it was quite developed. It is worthy of notice that this has been remarkably the case with the epidemic cholera. Dr Gray observes that, in 1782, a complaint, similar to the influenza, was taken notice of in some parts of the kingdom *several months* before that disorder made its progress through it.

[To be continued.]

COLLECTANEA.

Metastasis of Rheumatism.

Treatment of Rheumatism by moderate Bleedings and Quinine. Colchicum.

Mr Clifton related, before the London Medical Society, a case of sudden metastasis of rheumatism to (as he thought) the diaphragm, which drew forth a discussion that occupied the remainder of the evening. He had never before seen a metastasis of that kind. The occurrence was one of great interest at the moment, and excited the highest alarm in the sick room. He had been attending a delicate female, who formerly labored under a pulmonary affection, but was now recovered from that, and suffered an attack of acute rheumatism in the legs, feet, and knees. He gave her during several hours after it had set in, moderate doses of the vinum colchici, which subdued the pain; but two hours after he left her he was summoned again in great haste, in consequence of a violent accession of the disease in another part. On returning to the house, he found her breathing with the utmost difficulty, the countenance excessively anxious, and the symptoms altogether so startling, that both himself and all around her believed her to be in the agonies of death. The state of the pulse was, in fact, the only consolatory indication. Though the dyspnœa was great beyond measure, the pulse was but 88, and not small nor fluttering. This induced Mr Clifton to believe, that the disease was not one of the heart. The attack did not involve the intercostal muscles, but appeared to be purely one in which the diaphragm was affected, preventing its descent into the abdomen. The labor of respiration resembled the extremest degree of that sort of difficult breathing which marks the advanced stage of peritonitis, when the tumefaction is greatly augmented. This continued for some hours, during which hot water to the feet, and doses of ether and opium, were resorted to, with the effect, in eight hours, of producing relief, subsequent to which the rheumatic pains in the extremities were wholly removed.

The case was regarded as a singular one, and led to a debate on bleeding in rheumatism. Mr Clifton having first been asked why he did not bleed for the acute rheumatism, in addition to giving colchicum, Mr Clifton's reply was, because the patient was too delicate to bear it. But first of all,

Mr Proctor rose to express an opinion, that metastasis of rheumatism to the heart, &c, was much more common now than it used to be, from whatever source the frequency might arise.

Dr Burne thought so too; and the cause he ascribed to the large bleedings employed by the moderns to subdue rheumatism, which appearing to them to be a disease that would allow bleeding with advantage, was consequently thus treated to an excessive extent, and ended in the frequent metastasis complained of. Rheumatism, however, was a constitutional disease, which bleeding would not cure. Continued depletions reduced the extremities to a state which rendered them unable to support rheumatic attacks, and the disease, consequently, not being really expelled from the system, flew to the heart, as a central part which was better able to suffer and keep up the rheumatic diathesis. Entertaining these views, he bled sparingly in the disease.

Dr Whiting thought this theory very plausible, and that acute rheumatism was certainly far too freely treated by bleeding. He used it moderately in most cases, just to subdue the inflammatory action, and then employed quinine to prevent the return of the attack. He begged particularly to call attention to this practice, and wished that practitioners would give it a trial. The success of the plan in his hands was such that he would advise every practitioner in the kingdom to give it a trial. He positively found the quinine to be as remedial in acute rheumatism as he did in ague. As soon as he saw a case, he had the patient bled, and directly after the lancet was used, he gave two grains of sulphate of quinine every three or four hours, continuing it until the pain was gone. So effectual was this, that if a cure was not immediately performed, a subsequent attack which was very rare, was sure to be a very mild one. (Much surprise was expressed by some members at these statements. The Doctor, therefore, subsequently enlarged on the subject, expressing the following views, partly made public some years since, he said, in one of the medical periodicals, and since fully confirmed by additional experience.) He regarded quinine not as a stimulant, but as a medicine which had the marked influence over the nervous system, of *preventing the return* of morbid action in cases where disease had once been subdued. Thus, in *acute* rheumatism (*arthritis;* not common muscular rheumatism, which was quite another disease), he first produced a reduction of the pain by a bleeding, — and then the morbid action of the parts being subdued — he threw in the quinine to prevent its reappearance; and most effectual, surprisingly effectual, was this mode of treatment. He besought practitioners, generally, to try the quinine on their own persons, in this light, and in acute rheumatism he was persuaded they would never adopt any other plan. He used to give colchicum, either bleeding or not in addition, as circumstances seemed to indicate, and *occasionally* it would cure a patient in a few days, but the quinine, after bleeding, was invariably successful in his hands. He had seen patients who had been lying very ill with rheumatism for a long period, defying all other treatment, whom the quinine had restored to full walking condition in two or three days. Many other medical men were also now employing it, and his former pupils often wrote to him to say how successful the plan was in their practice.

Dr Shearman thought that metastasis of rheumatism was now much more frequent than formerly, and he often was at a loss to account for it; but he now thought that the difference was to be traced to the increased mania for evacuations, and to some change in the constitutions of men. To profuse bleeding he objected, on the ground that inflammation was an accidental concomitant, not an actual feature, of genuine rheumatism.

Mr Clifton relied almost entirely on the wine of colchicum in his cases. Dr Fordyce used to say, that bleeding was certainly very fashionable in rheumatism, but that he never in his life derived advantage from it.

Mr Proctor, referring to the varying efficacy of the two forms of colchicum, observed that at Gravesend, where rheumatism is so common, they state that they cannot depend at all on the wine, but only on the powder of the root, half a drachm of which they usually give every four hours. They consider the powder there as a specific. In London, however, it was almost a useless medicine compared with the wine.

Mr Salmon. Mr Wigan, of Brighton, an experienced practitioner, finds the powdered colchicum in doses of ten grains three times a day, the most effectual of all remedies, and recommends it strongly.

Mr Hooper. Then it cannot be good, I fancy; for half a drachm, if pure, will, I have found, poison a patient.

Mr Dendy. Yet I have given in one case, a drachm and a half of the vinum colchici in the course of the day, after taking twenty ounces of blood. The neighbors of the patient sent to me to stop the cries which his rheumatic pains produced. Three or four doses produced but little relief, and in my absence the patient was so determined on a cure, that he took four teaspoonsful at a dose of the wine procured straight from Apothecaries Hall, four times a day, and the effect was to restore him at once to health.

Mr Cole said he had known a scruple of the powder, given in three doses, produce, in a gentleman aged 70, ulceration of the intestines, which took three years in curing.

Mr Blencairne said he had tried Dr Whiting's plan, and been disappointed in it.

The spirit of discussion was slow of descent this evening. The Chairman tried to invoke it by asking whether the *mischievous* effects of colchicum were produced on the sensorium or the mucous membranes, but the inquiry fell still-born. So Mr Dendy started the novel proposition that the metastasis of disease was not the transference of disease from one spot to another, but a new attack, produced so violently in a fresh part, as to hide from the patient's feelings the effects of its continued existence in the original seat. The position thus stated was rather untenable, as Mr Dendy afterwards saw, but it served as a stimulant, however, to conversation, inducing, by and by, Dr Uwins to rise, and speak of the treatment of rheumatism, and to recommend *elaterium*, in considerable doses, in the first stages of rheumatic affection, declaring, on the strength of his own experience, that ' it would not only tend to shorten the duration of the disorder, but would, in fact, destroy the disease in the bud, and prevent a long course of inconvenience and suffering.' It should be given in grain or half-grain doses, every morning, according to the degree of pain experienced, and the malignancy of the disorder. Its precise action he could not explain, but he was led to give it at first, from, he believed, its tendency to produce nausea, and set the secretions at work. His patients said that it was a very unpleasant medicine, but the relief produced fully counterbalanced its disagreeable mode of operation.

Mr Salmon asked,— What of acupuncture in rheumatism? In my limited experience it has failed.

Mr Dendy. And in mine too. When first it was proposed, it certainly effected some singular cures, but, of late, success does not seem to have attended it. Among the cures it formerly produced, was one that came within my knowledge, where it benefited both patient and practitioner in a very agreeable manner. The Earl of Egremont was a martyr to rheumatism, and some years since, after having been treated by every medical man of note in London, without obtaining relief, he retired to his seat at Petworth, in despair. A friend of mine, who resided in Sussex at that time, happened to get an early copy of Mr Churchill's little work on acupuncture, and tried the remedy therein advocated with perfect success on an old woman who was a *protege* of Lady Burrell, the daughter-in-law of the Earl. Her ladyship heard of the cure, and told the Earl what had been done; the result was, that the surgeon was sent for forthwith to try the new process on the peer, into whose tortured person he accordingly introduced two needles, keeping them in for twenty minutes. The effect was, that the Earl, who had obtained no sleep for the past fortnight, that night slept for seven or eight hours. Filled with joy, he gave the fortunate practitioner a check for a large sum, sent him home with post horses, and that day bestowed on one of his favorite racers the name of 'Acupuncture.' The event made my friend's fortune. As regards my own experience, however, I may state, that I have lately had three cases in which I have tried this remedy without advantage.

Dr Uwins spoke of the supposed production of rheumatic attacks by unsuitable food, which led

Mr Salmon to mention a case that he had attended for retention of urine, where the patient was subject to periodical rheumatic pains in the intercostal muscles, and on one occasion brought on a violent attack of the complaint by eating two eggs boiled to great hardness. The pain began on the 4th day, lasted two days, and was relieved on the 7th by the patient's actually throwing up, as he (Mr Salmon) himself witnessed, the eggs that had been swallowed a week before.—*Lancet.*

EFFECTS OF TEA AND COFFEE DRINKING.

A paper on the deleterious effects of tea and coffee was offered to the London Medical Society, through the secretary, with the request that, in order to induce the freest discussion on its contents, it might be read without mention of the author's name It had been examined by the President, and approved, but there was sufficient demur to its reception as an anonymous production, to induce the author to avow himself as Mr Cole.

The paper was then read by the secretary, Mr Headland. It consisted of a record of cases in which the author had observed injurious effects following both the habitual and the occasional use of tea and coffee (with deductions therefrom), those effects, however, being produced in persons who, when the accession of disorder was noticed, were already suffering from disease. Circumstances do not allow us to devote a lengthened space at present to an analysis of the paper, if the various opinions of the speakers who occupied a crowded room, be at the same time recorded. The latter possessing the more temporary interest, are now subjoined, and on another occasion a quotation from some of the well-marked cases in Mr Coles's paper may prove both useful and interesting.

The President expressed opinions much in coincidence with those of Mr Cole, and stated that tea and coffee produced very undesirable effects on him, according to the periods at which they were taken. He had, for many years, advised dyspeptic patients to forego the use of tea.

Mr Proctor did not think that the paper settled the chief point which needed discussing — namely, the effect of tea on a *healthy* stomach. The cases quoted certainly showed that tea tended to aggravate the diseases of dyspeptic persons, but nothing more. Moreover, though tea might be injurious for breakfast, it was repeatedly beneficial in its effects in the evening. It had often relieved headache in his own person.

Dr Shearman said, that the opinion of Mr Cole was in direct opposition to that entertained on the subject, of late years, by most men. Instead of depressing, its effects were now usually considered to be stimulating. The fact was rather against the soundness of the author's view, that deleterious effects were ascribed to three distinct beverages — green tea, black tea, and coffee. There must, therefore, be some evil common to them all, which relieved the several bases of these solutions from the odium which was affixed to them. There were few of the members who after dinner — for instance after a good feed at the anniversary meeting of the Society — had not experienced reviving and beneficial effects from the calumniated fluids.

Mr Dendy wished to know whether Mr Cole ascribed any particular effects to a high or low temperature of the beverage drunk. To which Mr Cole replied 'none,' though hot tea might be more stimulating than cold.

Dr Uwins thought that tea was only one of the many practices introduced by modern artificial society, which tended to produce dyspepsia and the other ill effects which were sometimes charged to the account of tea-drinking. He was, himself, a slave to the teapot morning and evening, and might produce very ill effects by his devotion to crockery but that he was in the habit of cheating the poison by giving it a good sop of dry toast. The substitution of tea for the more substantial diet of our forefathers, was, certainly, a good change, though some evils might lie in the opposite scale.

Dr Cholmondely considered that tea was an excellent and appropriate beverage, and its ill effects, when it exhibited any, were the effects of unreasonably strong solutions. Its invigorating powers after a journey all knew ; and often, too, on other occasions. He was acquainted with one case, in fact, and could add others to it, where the only relief from oppressive headache was obtained by the patient from tea, which she kept constantly by her bed-side ; and whenever injudiciously alarmed friends persuaded her to abandon it, she was invariably compelled to return again to its use, as the only thing from which she could derive comfort and solace. To the poor, tea aided to form a most agreeable meal ; and Dr Johnson, the great lexicographer, was a notorious example of its congeniality with the human system.

Dr Whiting's opinion precisely accorded with that of Dr Cholmondely, and he was satisfied that tea did no harm where there was not actual disease of the stomach, or of parts which sympathised with that organ when deranged. It was a powerful agent, however, when strong. He was conversing lately with a pupil who had made the following experiment on the subject. He brewed an infusion of tea as strong as possible; using, in fact, as much tea as the water would take up. Of this he drank largely. Great depression followed at night, a kind of delirium came over the senses, he could obtain no sleep, and it was not until the middle of the next day that he recovered from its effects. He (Dr Whiting) himself could take tea in the morning with great enjoyment and advantage. He had tried milk, and milk and water, as substitutes for it, but always experienced mental confusion afterwards, when proceeding about the business of the day, from which he was subsequently driven to relieve himself by tea At night, however, it would occasion a trashy kind of sleep, if he exceeded the quantity of a very small cupfull, and it produced injurious effects when taken during periods of great mental exertion.

Mr Stevens was much addicted to tea drinking, yet never experienced bad results therefrom. He could trace as many ill effects to dinners, if he chose, as were ascribed to tea.

Mr Cole, in reply, said, that if the various speakers, instead of drawing inferences from their personal experience, were to observe the effects produced on their patients by the habit in question,. they would, he thought, be strong in their condemnations of it. It was the depressing effects of tea which, he thought, in the middle of the day, drove poor people to gin-drinking. Of one thing he was quite satisfied, that in all cases of disease of the heart, tea invariably aggravated the symptoms. He had, himself, greatly suffered from it, and a single teaspoonful would distressingly accelerate the action of his heart.

In conclusion, Dr Shearman suggested, that commonly, the dose of sugar mixed with the infusion, really did the mischief when any occurred; and that fine green tea was more likely, of the two teas, to derange the stomach. Dr Whiting thought the subject a profitable one for discussion, and that the able paper of Mr Cole would tend to make them turn a careful attention to the effects of tea, which, from its extensive use,- deserved more consideration, in a medical point of view, than it usually obtained. — *Lancet.*

CHOLERA MEDALS.

The numbers of the *Gazette Medicale*, the *Journal Hebdomadaire*, andthe *Lancette Francaise*, just received, derive their chief interest from the testimony which they convey of the general indignation excited in Paris by the unprincipled government of Louis Philippe, in the affair of the thousand "cholera medals,' which have just been distributed, and the names of whose possessors have been officially published in the ***Moniteur***. Nothing more disgraceful than the whole proceeding can easily be imagined. An innumerable multitude of citizens had 'done their duty,' fearlessly, heroically, in the teeth of a raging epidemic. Among the number the medical profession stood foremost. Of these, the resident pupils (*élèves internes*) of the hospitals, and the editors of the medical journals, were confessedly the first. The pupils watched night and day at their melancholy posts, themselves more than decimated in the fulfilment of the charge. The journalists collected, with a degree of zeal and ability altogether unexampled, myriads of practical observations, of therapeutic lessons, of experimental results, valuable beyond calculation, and circulated them at once among the profession and the public. As might be expected, the nation was unanimous in its praises of these humane exertions, and the government journals re-echoed the cry. The only question that was then agitated was, How could such deserts receive an appropriate recompense? This was certainly a difficult problem. The organs of the medical profession, however, recommended, that the body of medical practitioners should receive no *individual* reward, but that a public monument should be erected in commemoration of their devotion, while for the pupils they proposed that their reception to the doctorate should be gratuitously accorded. This was wisely thought, but the opportunity of exhibiting a base ingratitude, and calling into action the most pitiful of human passions, was seized by the despicable advisers of the 'citizen king;' and it was resolved, that 1000 medals should be struck and distributed amongst the 'most meritorious,' by a secret committee, appointed, no one knows how, and composed of no one knows whom. Their decisions proved to be such as were *à priori* anticipated. They have just published their list, and the following are its most prominent features.

At its head stands Monseigneur the Duke of Orleans!! and then in alphabetical rotation the names of cabinet ministers, mayors, police spies, magistrates, physicians, surgeons, sisters of charity, countesses, and quacks. Among this list there are, doubtless, many deserving persons, for the majority of the people of Paris did their duty on the occasion. But, — will it be believed out of France? — the *internes* have been completely omitted from the list, — with the exception of a few who did duty at one hospice, the *Salpetrière*! MM. Jules Guerin Bouillaud, and Febre, the editors of the three weekly journals, the ***Gazette Medicale***, the ***Journal Hebdomadaire*** and the ***Lancette***, are also passed over. The officers of health at the military hospitals, including M. Casimir Broussais, have been similarly treated ; and as for the working classes, who did all the manual labor and drudgery of the time, not even one has been rewarded. All this, too, is unblushingly done, while M. Gisuet, the prefect of police, whose blundering terror of an ' universal poisoning,' and ludicrous proclamation thereon, led to the commission of numerous murders in the streets of Paris, occupies, along with his phalanx of spies and satellites, a remarkable space in the columns of the *Moniteur*. We may add, that one of the first on the list is a M. Beliol, whose advertisements to cure the ' itch, the tetters, and secret diseases,' are pasted on every wall in Paris !

Under these circumstances it is not to be wondered at, that the publication of the list has excited general reprobation. M. Magendie, to whom a medal was awarded, *immediately returned it to the Minister*. M. Thierry, another eminent physician, did the same, accompanying his refusal with a note, stating that he never would wear a medal the fellows of which had been conferred on such a man as the Prefect of Police. Several other individuals have done the same, so that in a few days we have little doubt but that the minister will have received back as many medals as will enable him to decorate Vido cq, and such others of his clique as have not yet reeeived the distinction. —*Lancet.*

LUXATION OF THE HUMERUS DOWNWARDS AND FORWARDS — REDUCTION BY THE NEW METHOD PROPOSED BY M. MALGAIGNE.

The entire profession has been struck with the simplicity of the mode of operating recently revived by M. Malgaigne with so much success. The following recent case of its successful employment fully confirms the advantage of this method.

On the 4th of February, at four P. M., a water porter, named Claverole, ætat. 25, of weak constitution and feeble muscles, presented himself at the Hôpital St Louis. He was affected with a luxation of the humerus of only an hour's occurrence, and which was occasioned by his horse suddenly rearing up, and descending with his feet on each of Claverole's shoulders with such violence, that the shoulder was thrust out of its cavity, and a severe contusion produced at the corresponding side of the thorax. The state of the patient did not allow any mistake as to the existence of a luxation downwards, which was sufficiently proved by the elongation of the arm, and impossibility of lifting the hand to the head, the depression of the deltoid below the acromiom, the separation of the elbow from the body, the projection of the head of the humerus in the hollow of the axilla, and the elevation of the pectoral muscles below the clavicle. The reduction was effected in the following manner ;—The patient being seated on a solid chair, the shoulder was fixed by an assistant's hands pressing from above downwards on the acromiom. The operator, placed at the outer side, seized in his right hand the forearm a little below the elbow, and lifted it up gradually on a parallel with the axis of the trunk, exercising at the same time a moderate degree of extension, and pressing with the points of the fingers of the left hand the head of the humerus in a direction upwards and outwards. The arm had scarcely reached the vertical position, when, almost without effort, and without any suffering on the part of the patient, the head of the bone returned to the articular cavity, with the ordinary noise; the shoulder instantly regained its rotundity, and the patient was able to move his arm. The fractured clavicle bandage was then applied in order to prevent a new displacement.—*Lancette Francaise.*

THE EPIDEMIC INFLUENZA.

During the whole of this month, a severe catarrhal epidemic has very generally prevailed in London, and many other parts of the country. But few persons have altogether escaped its influence, although in many the symptoms have been so mild as to require for their relief and removal little more than the ordinary domestic remedies. In those, however, who had suffered previously from pulmonary complaints, the epidemic has in many instances been very severe, and not unfrequently fatal. Several cases have fallen under our own care, in which the patients, who had before been subject to bronchitis and asthmatic diseases, have been placed in danger by the attack of the prevailing malady. In the course of the last fortnight we have seen upwards of 150 cases; and, if we are to credit the reports we have heard, this is but a small number in comparison with that which has fallen to the share of many other practitioners. The disease has usually commenced with headache and a general feeling of oppression; febrile symptoms of greater or less severity, modified of course by the previous state and constitution of the patient, has quickly followed; cough, hoarseness, and soreness of the throat, with sometimes slight inflammation of the eyes, have either at first attended the febrile accession, or speedily succeeded it. In many instances the patient has complained of great lassitude, and a feeling of general soreness over the whole surface of the body, with pains in the arms and legs. The cough has generally been violent and tedious.

As far as our own observation extends, children have been much less subject to the disease than adults, and females much more so than males.

We are not aware that it has proved fatal in any case where the patient was before the attack in good health. We know that many fatal cases have been mentioned, but we have found, upon inquiry, that in all these instances the patients were invalids at the period of their being attacked with the epidemic, or far advanced in age, and likely to fall victims to any disturbances of their feeble and worn out constitutions.

It has of course been found necessary to vary the treatment according to the age and constitution of the patient. With very few exceptions, however, general bleeding has not been required and, when it has been unnecessarily employed, great depression has followed, and but little alleviation of the cough and oppression of the chest has been obtained by it. Mild purgatives, saline diaphoretics, occasional warm drinks, and confinement to bed for a few days, has appeared to be the most effectual and beneficial mode of treatment. An opiate at bedtime has generally been given with advantage. The disease is now on the decline, but in many persons who have been attacked, the harassing cough continues, and appears to be but little under the control of ordinary remedies.

Many persons, who have imprudently exposed themselves to cold soon after the attack, have suffered from severe relapses, the management of which we have found much more difficult than the original disease. — *London Med. and Phys. Journal.*

NEW ZEALAND HEADS.

It may not be generally known that the importation of New Zealander's heads is now entirely prohibited. By the late Act, which regulated the duties to be levied on anatomical preparations, an express provision is made, that not any duty, however high, shall permit them to pass; for, revolting as the statement may appear, these chiefs were absolutely being murdered to supply the cabinets of European virtuosi; and so profitable had the trade become, and so great was the demand, that no New Zealander's head was safe upon his shoulders, if within the reach of a trader's swivel.

Since writing the above we have noticed the following paragraph, which has been copied into our journals from the 'Sydney Herald.'

'*Dangerous Cargo.* A very severe encounter took place, a short time ago, betwixt one of our colonial schooners, and a party of New Zealanders. It appears that this vessel, during her last trip to Sydney, had procured a number of native heads, and also brought up a chief with them. While the chief was on board, the captain had occasion to overhaul his stock of heads, and they were incautiously exposed to the view of his companion. The chief caught a glimpse of them, and recognised the heads of some of his own relatives. He said but little at the time, but when he returned to the islands, he procured a party to resent the insult given him. They immediately commenced firing upon the schooner, and a regular fire was kept up between both parties for some time, when the vessel weighed anchor, and sheered off. It is more than probable that, if the schooner had not crowded all sail, the captain and crew would have been sacrificed, and an exchange of heads taken place.'—*Sydney Herald, Aug.* 2.

ITCH SUCCESSFULLY TREATED BY CHLORATE OF LIME. BY PROFESSOR FANTONELLI.

The Professor states that, after having employed the above remedy with considerable success in his private practice, he determined to try its effects upon a more extended scale in the hospital. It was employed in eight cases of itch, which were admitted about the same time; six men and two women. The latter, in whom the whole surface of the body was covered with the eruption, were cured in six days. Of the six men, five were completely cured from the fifth to the eighth day; in one instance, a young man, sixteen years old, the eruption of itch was followed, while he was treated in the same manner, by general eczema, which was however speedily relieved by warm baths. The original disease then returned, and was cured by fumigations of sulphur.

The strength of the lotion employed for adults was from one ounce and a half to two ounces of the chlorate in a pint of common water, and with this solution the parts affected were rubbed three or four times a day. For infants, an ounce of the chlorate in the same quantity of water. Every three days the patient should be put into a warm bath, in order to remove from the skin the deposition of lime that may have formed upon it, and to relieve the irritation sometimes produced by the remedy, when it is used too strong, or when it is too frequently applied. It rarely happens that by this means the itch is not cured in eight days; and the professor feels confident that it is the most certain, the most prompt, and the most economical, treatment that has hitherto been adopted. — *Ann. Universali di Med.*

ACRODYNIA — THE RECENT UNIQUE PARISIAN EPIDEMIC.

I should now, in regular order, notice the neuralgic pains of the parietes and internal parts of the abdomen, but these I shall pass over at present, and come to the limbs, which are next in succession. Sciatic neuralgia, or the pain following distinct nervous chords, does not, of course, come before us here, restricted as our object is to the consideration of the sensation of pain dependent on vague and obscure nervous aberrations. A recent and most extraordinary epidemic has, however, supplied us with ample materials for filling up this nosological chasm. I allude to that which four years since commenced in Paris, for the first time that it had appeared in the world, and, during two successive years, for several months, especially in the spring and summer, affected a vast majority of the population of Paris. Its prominent and characteristic symptom was pain, peculiar in character, and more or less severe in the hands and feet, from which it sometimes extended to other parts, whence it received the appropriate name of *acrodynia.*

This strange and celebrated epidemic has no analogy with any known or described disease. It appeared suddenly in Paris without any known cause, and in the course of a few months disappeared as unaccountably as it came, and, as far as I am aware, has not since occurred, either in the epidemic or sporadic form, with the exception of the single case of a young man who, about five months since, was admitted to La Pitie for this affection. I have already mentioned the nature of the chief symptoms. The patients compared the pain to the effect of great numbers of pins thrust into the parts affected. In multitudes of persons it reached such a degree of intensity, that manipulation became a torture, and walking impracticable, and they were, consequently, obliged to remain in bed. At the end of an uncertain period, the pain used to diminish, but the skin had lost much of its natural sensibility. Other phenomena also supervened. The skin of the hands and feet often became red, the epidermis then came off in large flakes, or large vessels formed on the same parts, and cases were even seen in which the entire epidermis was separated together, retaining the form of the hand or foot, like a glove or a stocking. The coloring matter of the skin was also secreted in unusual quantity, and of an altered kind. The skin became brown or black in detached spots, or to a great extent; and in one case which I saw, in which the peculiar pain had extended from the hands and feet very generally over the body, the integuments of the abdomen became in several places as black as the body of a negro. At the same time it was no rare thing to find considerable derangement of the mucous membranes. This took place at variable periods; sometimes at the commencement, sometimes in the progress of the disease. A great number of individuals complained of anorexia; the tongue became white; vomiting, and sometimes diarrhœa, occurred. The symptoms even, at the commencement of the epidemic, imitated the phenomena of irritant poisoning so much, as to excite suspicion in some cases. However, these digestive derangements were far from being universal. In many persons the apetite alone was disordered. In the majority there was no single symptom of the kind. We are, consequently, entitled to conclude, that the intestinal mucous membrane did not act as the cause of the disease, — that the occasional disturbance of its functions was merely an effect thereof. The vague nervous symptom of pain in the hands or feet, was the constant and primordial phenomena. The others were mere accidents, undeserving of our attention when we reason on the nature or causation of this strange disorder. But of this cause, we find here, as in the vast majority of epidemics, that it totally escapes our means of investigation. The acrodynia now described prevailed in Paris for two successive springs and summers, having disappeared during the intervening months of winter. In the *third* spring, another epidemic, the *grippe*, appeared in its stead, and affected vast numbers of the population. Lastly, during the fourth spring, the devastating cholera burst out, and caused an awful mortality. The fifth spring is now commencing, and will be observed with deep interest by all who study the history and phenomena of epidemic diseases.

The duration of the symptoms varied, according to the individual affected, from some days to several months. As far as life was concerned, the prognosis was not grave, for no death occurred from this affection alone. It often, however, rendered the patients incapable of pursuing trade or employment for a great length of time, and thus occasioned much misery among the working classes. Like the cholera, it manifested a peculiar predilection for particular quarters of the town, some of which were crowded with inhabitants, to excess, — such as the Faubourgs St Marceau and St Denis, the Rue des Lombards, and the Cité generally. The Rue Godot and Place Maubert also furnished a vast number of cases. However, an equal proportion was supplied from airy and fashionable streets. The Rue Des Petits Augustins, in the Quartier St Germain was, for example, particularly visited. The Caserne de l'Ave Maria, and the Hospice near the Rue de l'Enfer, were also remarkably affected. Yet, in all these places, the diet, clothing, and habits of the population — in short, all their appreciable circumstances, were the same as in preceding years. How vain then it is for us to seek in such conditions the explanation of these mysterious occurrences! As to its mode of propagation, there were many speculations, none of which have been proved. From the fact of every inmate of some houses having been attacked, some concluded it to be contagious. This was not, however, a proof of that sort of transmission. However, the non-existence of contagion was, on the other hand, very far from being established, and there were facts in favor of the opinion of a very striking description. We must, consequently, neither receive nor reject that doctrine on the data at present before us. Of the pathological nature of the disease, no precise knowledge was arrived at. Its symptoms lead to a fair presumption, that it appertained to the nervous system, but this notion, whether true or false, has received no support from anatomical investigations. I have myself instituted the most minute researches into the state of the nervous system, centre, and ramifications, in some persons who died of other diseases while laboring under the epidemic, and I obtained no inferences of any consequence beyond this, that the acrodynia is one of those diseases which anatomical pathology is incompetent to elucidate.

As for the treatment of the acrodynia, a few words suffice to describe its nature and effects. No treatment whatever was radically efficacious, the disease running its course despite of all medicinal efforts. I need not recount all the measures at first resorted to, but in a few months our therapeutics became very simple, and we contented ourselves with trying to give a little relief by the use of baths and narcotics. Various papers appeared on the subject at the time, but I would particularly refer you to the thesis by M. Garot, in which you will find it very ably discussed.-*Andrals's Lectures.*

INTERVALS BETWEEN CHILD-BEARING

Dr Epps, begged to put the following question to the Society: Is it possible for a woman to have a fourth child thirty-five years after the birth of the first she has borne? A claim, grounded on the affirmative averment, had lately been set up, and the parties, pro and con, were going into court accordingly, to settle a question of property which arose out of it. The woman must, if true, have been sixteen years of age when she had her first child. He (Dr Epps) had, in searching for precedents, met with a case where a woman had actually given birth to twentyseven children in twentyseven years, and two women, a mother and a daughter, had lately come to the Vaccine Institution, each with her own *infant* in her arms, but neither of these cases presented so long an interval as the case first mentioned, the veracity of which was about to be disputed on the score, probably, of its impossibility.

It was allowed by those who commented on his statement, that if the woman had continued to mensurate (subject merely to casual interruptions) from fifteen to fifty years of age, there was no physiological reason why conception should not take place at any period in that interval. — *Lancet.*

EXCLUSION OF LIGHT TO PREVENT PITTING IN SMALL-POX.

A number of patients laboring under small-pox were admitted into the Charity Hospital, New Orleans, in 1830. They were placed in separate apartments with the window-shutters closed, and so contrived, that while the air circulated freely, the sun's light might be wholly excluded. The usual treatment was then adopted, in darkness, and the result was, that, when discharged, not one of the patients exhibited a pit or mark on the body, the progress of the disease being greatly ameliorated by the plan. The experiment was repeated with equal success. — *American Journal.*

QUACKS.

The tribunal of police of Rouen, has just condemned the notorious travelling 'oculist' Williams, to a pecuniary fine for selling his nostrums in that town. For the last six months also, the importation of English patent medicines into France, has been totally prohibited by a government order. The English idlers at Paris express considerable annoyance at this deprivation, which has the good effect of cutting off a large source of profit from the ignorant manufacturers of those mischievous compounds.

NEW EPIDEMIC.

A new and peculiar epidemic is prevalent just now in Paris and its environs. It consists of a very painful inflammatory affection of the feet, resembling rheumatism in some of its symptoms, though widely different from that affection in others. It bears no slight analogy to the extraordinary epidemic 'acrodynia,' lately noticed by M. Andral, in his course of lectures, and which seized a great proportion of the inhabitants of Paris. An antiphlogistic mode of treatment seems best adapted to its cure.

HYDROPHOBIA.

We have now discussed the various lesions of sensibility, in which it was either exalted or diminished. Another species remains, namely, that in which the sensibility is neither exalted nor diminished, but simply altered or perverted. Under this head might be appropriately included the history of various hallucinations, but this subject has already been sufficiently discussed under the heads of mental alienation, ecstacy, &c. I merely allude to it now, in order to mark this as a suitable place for its introduction.

The examples of perverted sensibility are extremely numerous. Singular cases of a depraved sense are recorded, as, for instance, in persons who have experienced a strange desire to feed on human excrements. The case is related of a woman who felt a singular pleasure in smelling the same substances, as well as assafœtida, and a variety of other perfumes, equally agreeable. All these things are important, inasmuch, at least, as they afford an additional proof that perversion of the actions of organs is to be taken into account in our nosological reasonings, as well as their exalted or enfeebled conditions. It would not be difficult to give much greater development to this branch of our subject, did time permit it, or did any particular circumstance render it necessary. In this lecture, however, I will confine myself to the particular notice of one of the perversions of a natural instinct, which may, at the same time, illustrate the classification, and be itself of practical importance. Let us take then the natural instinct that teaches us the necessity for drinks, and which, under the influence of certain circumstances, may be perverted to complete horror of fluids, reaching to such a degree, that their deglutition becomes almost impossible. This state has been denominated *hydrophobia* — it is essentially characterised by the perverseness of the natural instinct for fluids.

The Two Varieties of the Disease.

This hydrophobia may be *spontaneous*, and it may consist solely and exclusively of one symptom, the horror of swallowing fluids — a simple nervous perversion of no serious character. At other times it is *accidental*, originating in a perturbed state of the functions of the nervous system, thus constituting a symptom of some other diseases, as is seen in hysteria, in many fevers, especially in those of the ataxic kind, in some of which diseases it may, even, be the predominant symptom. Inflammations of the œsophagus or pharynx may, again, be accompanied with a true hydrophobia. In all these cases, however, the symptom itself is but of little consequence, disappearing when its source of origin is removed. To be sure it may persist so long, and to such an intensity, as to exercise a prejudical influence over the economy, but these rare cases do not require more particular notice here.

The second variety of hydrophobia is, however, in point of serious importance, of a very different character. We now mean as the constant attribute of a dire contagious disease, the *canine rage*, which generally considered, itself includes two kinds, the spontaneous and the symptomatic ; the latter of which is produced only by the operation of a subtle contagion, whatever be the nature of the virus by which it is propagated. The existence of such a virus has, you know, been denied by some individuals ; but this is quite certain, that under particular influences, a poison is generated in particular animals, which, inoculated on the bodies of others, produces the same disease. This is the rigorous expression of facts, and is ascertained as the phenomenon of the transmission of the variolous infection, or virus, or whatever other name you may please to give it.

The disease, then, which the rabid animal produces by the inoculation of this poison, is never spontaneous in man, or in any other variety of animal but the *canine* and *feline* species. In all others it is the result of contagion. It is remarkable, too, that the intensity of the virus decreases as it passes from one body into another. Thus, the chances of infection by the bite of an animal, in whom the disease originated in inoculation, are less than in the case of a wound by an animal in whom the disease was of spontaneous origin. It was for a long time thought that hydrophobia was merely the effect of imagination, or of fear, but when we consider the number of animals who are too ignorant of the nature of what has happened to them, either to fear or exaggerate its consequences ; and when we recollect the numbers of children who have been thus infected, this obsolete opinion becomes too absurd to require formal refutation. With respect to the poison itself, it seems to be sufficiently proved that it is formed by an altered secretion of the glands and follicles of the pharynx, salivary apparatus, and throat in general. This seems to be a special vehicle of the poison. At any rate inoculation with the blood of rabid animals, or its injection into the veins, has not produced the disease in others, and the same remark applies to the solids of the system ; such as the cellular substance, muscles, &c. There are, to be sure, some ambiguous cases told, which seem to indicate transmission of the disease in other ways ; as, for example, the case of an individual in whom the disease was developed, after pricking his hand while handling the hide of a rabid animal. The case is, however, too badly told to prove anything. At any rate, I remember wounding myself once with a spicula of bone during an hydrophobia dissection at La Pitié, and I suffered no inconvenience from the accident.

A question has arisen, whether it be necessary or not that the epidermis should be penetrated, in order that the poison should be effectual. There are many facts which appear to prove the negative, but I am inclined to believe that it is necessary that the dermis itself should be in contact with the virus. It is still less proved, that the mucous membranes receive the poison without abrasion. It is readily intelligible how error may creep into observations of this kind. Perhaps we thus may account for the case related by Chaussier of a man who contracted hydrophobia after having applied to his nose a handkerchief on which a quantity of the foam of a rabid dog had been collected, and another case in which the disease followed, after a quantity of foam had fallen on the back of the hand. With respect to transmission of the disease by the dead body, there is no well authenticated or conclusive case upon record. The next question is, When this poison is inoculated, what becomes of it? Does it remain in the wound, or, on the contrary, is it received at once into the circulation, and diffused over the body? Formerly, the authors on this subject generally considered that the virus remained in the part until the disease was developed. More recently, it was asserted by Marochetti, that after three days it entered the circulation, and soon after concentrated itself in the form of pustules beneath the tongue; hence he derived the inference, that the tongue should be assiduously watched, and these pustules opened and cauterized, to prevent the reabsorption of the virus. All I can say about these statements is, that the pustules have been carefully sought for in France, in numerous cases, and have never yet been found.

The length of the interval between the occurrence of the bite and the development of the disease is very uncertain. From fifteen to twenty days is common; from thirty to forty still more so. But the period has in many cases been much longer; several months, two years, for example.* The latter case is very extraordinary, and *à priori*, would seem a thing to be rejected. But the fact is incontestable, and gives us another proof that we must not always reject at once whatever seems to be impossible in its nature. The fact, moreover, is not without its analogies in the history of other diseases.

The Symptoms of Hydrophobia.

The symptoms of the disease induced by this poison, next claim our attention. Generally some premonitory signs may be noticed. After the occurrence of some violent emotion, a fright or passion, after some unusual excess or exposure to cold, or insolation, or some similar agent apt to influence the nervous system, the individual commences to experience the special phenomena of this horrid malady. The wound, however long cicatrized, generally, but not invariably, opens afresh. I say not invariably, for many cases are on record in which this circumstance did not occur. Mellier, for instance, relates some in the *Archives Générales de Médecine;* but whether the cicatrix opens or not, it invariably becomes painful before the eruption of the disease in its decided form. Meanwhile, the patient feels a singular degree of uneasiness, of an indescribable kind; horripilations occur in various parts of the body; pain is felt in the back or limbs; he seeks in vain to sleep; the sleeplessness is either complete or interrupted by frightful dreams; he complains often of a great and distressing weight in the head; the digestion is impeded, anorexia occurs. In all these symptoms, however, (excepting those relating to the cicatrix), there is nothing specific, nothing to distinguish the canine madness which is about to supervene, from a host of other disorders. These prodromes, such as they are, may last from one to four or five days.

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* A well-authenticated case, which occurred at Rotherhithe, in which eighteen months elapsed between the receipt of the bite and the out break of the disease, is recorded in No. 330 of The Lancet, page 438.

These premonitory symptoms having run their course, a sudden and rude access of the true malady takes place. A paroxysm of suffocation is experienced, as frightful to the spectator as tremendous to the patient, — as if a noose were thrown around his neck and tightened violently, to strangulation. For some time the air ceases to be inspired, deglutition becomes impossible, intolerable constriction is experienced in the larynx and pharynx. All these phenomena are of simultaneous occurrence. Sometimes convulsions coincide with these terrible symptoms. When this happens they are rarely general, but are usually restricted to the face. Frequently there are singular shudderings of considerable violence, and affecting the entire body. If in this case we present a drink, all the symptoms are augmented, and it is repulsed with horror. If we force the fluid to the mouth, suffocation is imminent, nay, even death may immediately occur; the patient may perish as if mechanically strangled. An increased secretion of the salivary glands now commences; the foam issues in vast quantities from the mouth, trickling down from its corners, or puffed out to a considerable distance. The face is now colored, the eyes are injected, the tongue is parched and dry, and, to heighten to the last degree the sufferings of the tormented patient, his thirst becomes intense, in proportion to the impossibility of allaying it.

Such are the constant characteristic phenomena of this disease. They are essential, specific, and invariably present. But in addition to them, are others generally present, but not invariable, and the absence of which still leaves the disease perfect. These relate to affections of the intellect and of the external senses, to some conditions of the muscular system and genital organs. First, let us see what are the phenomena which the mind presents during this fearful struggle of the body.

Three different conditions of the intellect may here be noted.

In one set of cases its functions are completely preserved, from the commencement to the last moment. The patient may even know his state, be aware that death is impending; yet he acts as in ordinary maladies, and exhibits the dispositions common to rational persons in their dying illness. In a second group of cases, the intellect is entire in the interval between the paroxysms, but in the paroxysm itself, it is for the time abolished, and delirium supervenes. In this state the patient not unfrequently foresees the access approaching, and cautions the by-standers to protect themselves from his delirious attempts. In the third set of cases, the intellect is troubled from the commencement, the character of the derangement assuming various forms; it may be restricted to mere delusions, or amount to complete fury. The manifestations of this fury vary in different animals, corresponding to their previous instincts or habits of destruction. The dog, for example, attempts to bite, while that impulse is but an accident in man. The herbivorous animals use their horns in their rabid attempts to do mischief. With respect to the state of the organs of the senses, there is nothing remarkable in a great number of cases. In some, however, they have been noticed to acquire a remarkable degree of exaltation, as in the cases related by Magendie, of a patient who was habitually and completely deaf before he contracted the disease, and regained his hearing during the paroxysms. The genital organs sometimes present some remarkable phenomena. In females, nymphomania, to a violent degree, may be noticed ; in males, seminal evacuations, and intense desire for coition, during the paroxysms.

When once developed, the disease is composed of an uncertain number of paroxysms, such as I have already described, but generally increasing in intensity to the last, and of corresponding intervals of greater or lesser duration. In the interval the patient is calm, fatigued beyond description, often in a state of great prostration, frequently able to drink, but, what is remarkable, can never sleep. In proportion as the accessions increase in frequency, the pulse becomes small, and the face singularly expressive of one of the dreadful states of the patient. Usually death takes place in one of the paroxysms, with all the phenomena of true mechanical suffocation ; but what is particularly strange is, that patients often die suddenly in the interval, or during the access, without any prominent symptom of dyspnœa, or altered circulation, or cerebral commotion, which could explain the mode of death. The period within which death occurs after the commencement of the symptoms is usually from forty to sixty hours. In some rare cases the disease proves fatal in eighteen or twenty hours, and in still rarer instances, it persists for six or seven days.

Morbid Appearances.

On opening the bodies of those who die of this terrible affection, we find nothing constant or complete, nothing which elucidates in the least degree the phenomena which the malady exhibited. In the nervous system, in the generality of cases, there is no tangible organic alteration; and when alteration is observed, it seems to be rather accidental than of any specific importance, and is never sufficient to explain the cause of death. Dupuy, of Alfort, found cerebral ramollissement, hemorrhage, into the substance of the brain, injection of the meninges, effusion into the theca of the spinal chord, &c, in some dogs he examined. Similar appearances have also been met with in a few cases in the human subject, but in all these there is nothing special. The same appearances occur in a thousand other diseases, and even in hydrophobia they are only contingent on a small fraction of the cases. Some remarkable statements have indeed been made with respect to the nervous chords. In the *Journal Universel* for 1829, there is a memoir on this subject, the author of which states, that in the case respecting which he writes, the pneumogastric nerve, and the fourth, fifth, sixth, and seventh pairs, were of an intensely red color, so much so that they resembled muscular fibre. This fact was too remarkable not to excite universal attention and inquiry. Many individuals have consequently looked for similar appearances. Among others I have myself examined with the utmost care the bodies of hydrophobic patients. Directing my attention specially to this point, I am bound to say I have never found anything of the kind.

The digestive apparatus may also exhibit changes, but like those of the nervous system, they are neither constant nor specific, and consequently cannot be taken into account when we attempt to explain the nature of the malady. The fortuitous appearances, then, are, occasional swelling of the salivary glands, thickening or abrasion of the mucous membrane of the pharynx and œsophagus, redness and injection of the stomach, remarkable development of the mucous follicles of the intestinal canal. It is almost needless to remark, however, that these appearances may exist in an infinity of other diseases, in small-pox, scarlatina, cholera, typhus fever, dothinentherite, &c. They are, consequently, not special to hydrophobia; they are merely the effects of a general cause, and are certainly not the cause itself.

The respiratory organs, larynx, lungs, &c., are in the majority of cases free from alteration, at least of any constant kind. The blood is equally normal in its condition. The body has been said, I may add, to undergo putrefaction, with extreme facility and rapidity. The assertion, however, is not exact, and is contradicted by the observations of Mellier, and by the cases I have myself witnessed.

Treatment of Hydrophobia.

The treatment of hydrophobia is either premonitory, or during the presence of the disease. The former may be considered under the heads of local and general.

The local treatment refers to the wound itself. It consists of the application of various modes of cauterization; by fire, by various corrosive and escharotic fluids and solid substances, &c., varying according to the depth and character of the wound, which should be well washed with water before the application of the caustic. Some practitioners are in the habit of making the wound bleed a great deal before cauterization, and with this view, as well as for the purpose of preventing the absorption of the virus, they apply cupping-glasses to the bitten parts, a plan certainly calculated to be of much advantage. This mode of suction, washing, and cauterization, is not only proper immediately after the accident has occurred, but at all times before the disease is developed, and even after its first symptoms have appeared. The wound, though cicatrized, should be opened by caustics, the glasses applied, and free and copious suppuration established. The excision of the bitten part is, however, preferable to all this, whenever it can be conveniently practised.

A vast number of prophylactic remedies have, as you are aware, been successively vaunted in this affection. I shall only allude to a few of the most remarkable, none of them having been ever proved to have produced the happy effect of preventing the occurrence of the disease. In the vegetable kingdom two plants were especially invested with this virtue, namely, the *Alisma Plantago* and the *Guaco.* Their influence, to say the least, is, however, extremely doubtful. Still we should not thus be discouraged in our search for a specific for this singular and terrible disorder. Because a specific has not yet been found, we must not thence conclude that none can be discovered. There is more than one remedy in medicine, the mode of action of which sets *a-priori* reasoning at defiance. Who, for example, could have suspected that the vaccine matter would prove a neutralizer of the virus of small-pox? and who is there who can satifactorily and unequivocally explain the mode of action of this counter poison?

In the developed disease all sorts of specifics have been tried without success, and similar ill fortune has attended the practice of more ordinary methods of treatment. Bleeding, carried to an enormous extent, has been tried in vain. Injection of tepid water into the veins was proposed and practised by M. Magendie without success, but with the singular effect of arresting the access, diminishing its violence when it recurred, and alleviating remarkably the sufferings of the patient. The disease was not the less fatal, notwithstanding this transitory calm. It is altogether useless for me to occupy your time with an enumeration of all the remedies that have been tried in vain by many distinguished practitioners. Opium, for example, has been given in immense doses by M. Dupuytren; tartar emetic by others, &c. &c. The same melancholy event has, however, always taken place, no matter what was the treatment adopted. I shall therefore quit this fruitless topic, and proceed with my classification of the *perversions of sensibility.* — *Lancet.*

TREATMENT OF GLANDERS BY FUMIGATION WITH CARBONIC ACID GAS.

Mr Storry of Pickering, makes the following remarks in the April Number of the *Veterinarian*: — It seems to be the opinion of some of the most eminent men, that there has not yet been found a *certain* cure for the glanders. Mr Youatt remarks in his lectures, on the difficulty, if not the impossibility, of reaching the seat of the disorder by any means hitherto used. I consider the difficulty not so great, but then the object must be effected by means different from any yet attempted, excepting by myself, as far as I am aware. I proceed to record the treatment of a case of most confirmed glanders in a mare, belonging to Mr John Barry Smith, of Edston, near Kirby-moorside. On examining her, I found the pituitary membrane in a state of ulceration, and nearly destroyed: there was a discharge of muco-purulent matter, of a most fetid and offensive kind, of a greenish yellow color, and streaked with blood; the submaxillary glands were somewhat enlarged, and there were other symptoms which left no doubt on my mind that the disease was glanders. There was, besides, an oozing from one of the fore-legs, which indicated farcy. I bled, and gave a calomel and aloe purging-ball. I inserted a rowel under the jaw, and dressed it with blister ointment for a few days. I then began to fumigate the nasal cavity, by pouring a sufficient quantity of sulphuric acid upon prepared chalk mixed with water. I also gave occasionally, black sulphuret of antimony, combined with vegetable tonics, white hellebore, &c. The fumigation, I scruple not to say, reached the seat of the disorder, and together with the other treatment, effected a *complete cure.* It is nine years since this cure was performed; and I saw the mare repeatedly for five years afterwards, and not the least symptom of the disorder appeared during that period, and I have not heard of the mare since.

I am subjecting another glandered horse to the same treatment, and have considerable hope of effecting a cure, as the case is going on in a very favorable way.

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> "Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I. — TRANSACTIONS OF LEARNED SOCIETIES.

No. III.

THERE is no spot in the old world which is at the present day regarded by us, cis-Atlantic physicians, with so much interest as Paris. It is now half a century since the opinions which pervaded and governed the medical world, emanated from the modern Athens — the capital of Scotland. There, then, was established the throne of medicine, and from its great occupant and his rival pretender in the Intellectual City, went forth the edicts which annulled the ancient laws, and uprooted the old foundations, and scattered to the winds the multiform superstructures of the science. The dogmas of the two reformers of that age were widely promulgated and almost universally believed, continental Europe declaring for the Brunonian, while Great Britain and America attached themselves more generally to the Cullenian confession of medical faith. The high rank which the Edinburgh school attained under Cullen and his distinguished successors, rendered it for many years the chief place of resort to those favored few in our own country who were enabled to avail themselves of the benefit of European travel and study. But the times are changed, and notwithstanding the celebrity of many of the British teachers of our art, both in Scotland and in England,

and in opposition to the influences of a common language, a common literature, and, in many respects, a common character and mode of thinking, our young men visit Paris instead of London or Edinburgh; and more than a moiety of many of our medical libraries is composed of the works of French authors. There are many reasons for the preference which is now manifested by American physicians for Paris as a place of professional study, among which, as most obvious and prominent, may be enumerated the number, extent, and admirable administration of her hospitals, — the variety and excellence of her public instruction, together with the noble and generous liberality with which this instruction is offered to strangers from every country, — and, last, but not least in this brief catalogue, the urbanity of her teachers and professors, and with one or two exceptions, their free and familiar fellowship with their pupils. This characteristic is a subject of common and frequent remark among Americans as well as Englishmen, which would hardly be the case if they had been accustomed to the same thing at home. Hauteur of manner does not constitute either greatness or dignity of character, and we are not aware of the existence of any law of the animal economy by which a supercilious elevation of the head increases either the wisdom or the knowledge of its owner. True greatness and genuine worth need no such factitious and illegitimate aids — they wear their honors meekly — and we hope soon to see the time when this sort of *noli me tangere* self-importance, this *keep your distance* dignity will be left as the royal prerogative of quacks, the special and appropriate distinction of solemn dunces.

We are wandering, however, from the purpose we had in view at the outset of these observations, which was simply to notice some of the causes which have contributed to render Paris so conspicuous in the history of the advancement of medical science, other than such as we have already alluded to. However essential active mental, or physical occupation may be to happiness, men do not, after all, devote themselves to intense and assiduous labor unless stimulated by the hope of reward — reward of some kind, either present or prospective, — and, of course, activity and energy of exertion will bear a direct relation to the importance and magnitude of the results which are expected to flow from it. In the medical world of Paris the spirit of emulation is excited by more various and potent influences than it is any where else, and the same remark is true in relation to all the sciences. The cause of this may be found, in part at least, in the prevailing tone of popular character and feeling. The French people at the present day, pay but little honor and show but small regard to the arbitrary and accidental distinctions of hereditary rank, and the possession of wealth does not confer upon its holder a tithe of the relative influence and importance that it does in England. That distinction which comes through the medium of the *intellect*, and which is won by him who wears it, is chiefly prized and most ardently sought. We do not hesitate to say that even in our own democratic community there is not only more deference paid to wealth, but there is more pride of mere family greatness even than there is in France. The reigning aristocracy of the French is, emphatically, that of the mind. Celebrity and distinguished success in any of the sciences are passports to the *bureaux* of civil preferment, and to the *saloons* of patrician society. Under such circumstances, it is easy to see why this favorite arena of learning and the arts should be so crowded as it is with strong and gallant competitors, each striving, with such native strength as may have been given him, and with external aids and appliances such as no other city can furnish, to lay hold on some of the honors and rewards which are before him — the energies of the young aspirant in our own profession kindling up with the prospect of a Montyon prize, while further on in the distance his eye rests on one of the high professorships, or a seat in the Institute, as the ultimate and crowning glory of his labors, — the bright fruition of his hopes. The magnificent patronage of the French government, bestowed either directly or indirectly upon scientific men, — both motive and reward of exertion — is generally known; but we apprehend that our readers are not aware of the extent to which private munificence has been directed to the same ends.

The preceding observations were suggested on reading the report of the proceedings of the Academy of Sciences for the month of November, 1832, with which we now continue this series of papers.

Academy of Sciences. — *Session of Nov.* 5, 1832. — M. Flourens, in behalf of the committee to which had been assigned the duty of examining the works presented for the prize of experimental physiology, reported, that no one had been received on the subject proposed which appeared to the committee worthy of the prize. He added, however, that among them there were several which, from their actual value on account of the physiological results to which they might lead, were worthy of notice, and recommended that a gold medal of the value of *three hundred francs* be awarded to the following individuals: —

M. Carus, for his work on the circulation of the blood in the larvæ of certain species of insects.

M. Müller, for his researches on the structure of secretory glands.

M. Ehrenberg, for his work on the organization and the systematic and geographic distribution of the *infusory* order of animals.

M. M. Delpech and Coste, for their anatomical researches on the evolution of embryos.

M. Lauth, for his anatomy of the human testicle.

M. Martin Saint-Ange, for his researches on the circulation of the blood in the human embryo and fœtus.

At the sessions of the 12th and 20th various matters were agitated of no especial interest to the physician. M. Julia de Fontanelle addressed a letter to the Academy on the subject of blue urine. In 1824 and 1825 he analyzed similar urine, in two cases, and ascertained that the color was owing to the presence of hydro-ferro cyanate of iron. The same substance was found by Fourcroy, in the blood of a woman suffering with a severe nervous affection, accompanied with frequent and violent convulsions.

Public Session of Nov. 26. Prizes. The Salande Medals. These medals, of the value of *three hundred francs* each, were awarded by the Academy, one to M. Gambart director of the Observatory at Marseilles, for his discovery. July 19th, 1832, of a new comet; the other to M. Valz of Nismes for his researches on the diminution of volume, observed in cometary nebulosities, in proportion as they approach the sun.

Prize of Mechanics; founded by M. de Montyon. The Academy accorded a gold medal of *three hundred francs* value, to M. Thilorieu, for his new air pump; and a similar medal to M. Pixi, for the ingenious modifications which he has introduced in the arrangement of the electro-magnetic apparatus.

Prize in favor of whoever shall discover the means of diminishing the insalubrity of any art or trade; founded by M. de Montyon. The Academy adjudged a recompense of *eight thousand francs* to M. Ismaël Robinet, worker in glass, for the invention of an instrument as a substitute for the human lungs in glass-blowing. The work is done in this way with more power and more perfectly, than it is in the old way by the mouth. The attention of the Academy was also directed to a memoir by M. Gendrin on the employment of sulphuric lemonade, not only as a means of cure in painters' colic, but as preservative from this disease.

Prizes in favor of those who shall improve the art of healing; founded by M. de Montyon. The Academy awarded to M. Rousseau, for his experiments on the efficacy of the leaves of the holly in the treatment of intermittent fevers, *fifteen hundred francs:*

M. Lecanee, for for his chemical researches on the blood, *the same sum:*

M. Parent-du-Châtelet, for the experiments which he has instituted in order to ascertain how far the rotting of hemp is prejudicial to health, *the same sum:*

M. Manec, for his theoretical and practical treatise on the ligature of arteries, *four thousand francs:*

M. Bennati, for his physiological researches on the modifications of the voice produced by the action of the organs situated above the larynx, *two thousand francs:*

M. Deleau, for a new method applicable to the diagnosis and treatment of diseases of the ear, *four thousand francs:*

M. Merat, for his zeal in aiding the introduction into France of the bark of the pomegranate tree, for the expulsion of the tape worm, *fifteen hundred francs:*

M. Villermé, for his researches on the comparative duration of life, the size and development of the body, and the frequency of diseases in the two opposite conditions of opulence and poverty, *fifteen hundred francs:*

M. Leroux de Vitry-le-Français, for the discovery of *salacine* and its febrifuge properties, *two thousand francs.*

Prize of Statistics; *founded by M. de Montyon.* This prize, consisting of a medal of *five hundred and thirty francs* value, was awarded to M. Jullien for his *Topography of Vineyards.*

Grand prize of Mathematics for 1834. This prize, consisting of a gold medal of the value of *three thousand francs,* will be adjudged at the public session of 1834, to the author of any memoir, either manuscript or printed, addressed directly to the Academy, and containing an important discovery in analysis, or a new application of the calculus to astronomy or physics.

Grand prize of Physics for 1833. The Academy reminded the public that the following questions had been proposed for this prize, consisting of a gold medal of the value of *three thousand francs*, to be awarded at the public session of 1833: — to wit; — Do the hollow organs that M. Shultz has designated by the name of *vaisseaux du latex* — sap or juice vessels — exist in the greatest number of vegetables, and in what parts are they situated? Are they separated, one from another, or are they formed into a net-work by frequent anastomoses? What are the origin, nature and destination of the juices which they contain? Have these juices a movement of translation, and to what causes, either internal or external, is this motion attributable? Finally, how far are we justified in adopting or rejecting the opinion of some modern physiologists who admit in vegetables the existence of a circulation of fluids similar to that of the blood in animals?

The attention of the candidates for the grand prize of Mathematics for 1834 is solicited to the following subject. The explanations, more or less ingenious, which have been given by naturalists of the phenomenon of hail, are still very far from perfect and satisfactory. The Academy has thought that this question might now be successfully investigated; that the precise knowledge which has been obtained on the radiation of heat, on the temperature of the atmosphere at different elevations, on the production of cold by evaporation, on electricity, &c, &c, might, perhaps, conduct to a complete solution of this important meteorological problem. The candidates are urged to bear in mind that the Academy demands a theory, based upon such positive experiments, upon such varied observations, made if possible, in the regions of the formation of hail, that it may replace the vague notions that have hitherto prevailed on this subject.

Prize of Astronomy; founded by M. de Salande. This medal, ordinarily of the value of *six hundred and thirtyfive francs*, is annually adjudged to the person, either in France or elsewhere — the members of the Institute excepted — who shall make the most interesting observation, or furnish a memoir the most useful to the progress of astronomy.

Prize of experimental physiology; founded by M. de Montyon. A gold medal of *eight hundred and ninetyfive francs* value, will be awarded at the public session of 1833, to the author of such work, manuscript or printed, as shall appear to the Academy to have most contributed to the advancement of experimental physiology.

Prize of Mechanics; founded by M. de Montyon. This prize consists of a gold medal of the value of *one thousand francs.*

There are still other prizes coming from funds appropriated to this purpose by M. de Montyon. The number and value of these is under the control of the Academy, and they are exclusively devoted to the encouragement and reward of works and discoveries calculated to improve the art of medicine or to diminish the dangers of certain professions and mechanical arts. No prize is awarded except for discoveries or improvements fully established and verified. The amount is not always precisely stated beforehand, because the number of prizes is not fixed, but the liberality of the founder and of the government enables the Academy to make very generous appropriations, so that authors shall be amply remunerated for expensive researches and experiments, and recompensed in proportion to the services which they may render to science and humanity. The Academy has proposed the two following subjects.

Question of Medicine. What are the alterations of the organs in those diseases designated by the name of continued fevers? What are the relations existing between the symptoms of these diseases and the alterations observed? What are the therapeutical views resulting from these relations?

Question of Medical Chemistry. What are the physical and chemical alterations of the solids and liquids in those diseases designated by the name of continued fevers?

The prize for each of the above subjects, consists of a gold medal of the value of *five thousand francs.* The memoirs are to be sent, free of expense, to the office of the Secretary of the Institute, previous to Jan. 1, 1834.

The question of surgery, for which the prize is a gold medal of *ten thousand francs* value, was stated in the Magazine for August.

ACADEMY OF MEDICINE. — *Session of Nov.* 6, 1832. M. Virey read a report upon M. Kuhn's researches on *acéphalocystes.* The author of this memoir treats of the primitive and spontaneous origin of these bodies in the midst of living organs, of their faculty of reproduction and multiplication, and, finally, of the artifice by which the organism defends itself against these singular productions, in forming about them membranous envelopes — cysts, which isolate them from the healthy structure, and become filled with a calcareous deposition that finally compresses and destroys them. M. Dumeril informed the Academy that he considered acéphalocystes an organic product and not veritable animals. M. Itard doubted the correctness of this opinion, an the authority of Percy, who had witnessed in these bodies movements of contraction. In regard to this question, M. Breschet stated that the German naturalists were all agreed in denying to them the character of animals. The remainder of the session was mostly devoted to a discussion relative to vaccination. The session of Nov. 13 was occupied with M. Clot's account of the Egyptian School of Medicine, which has been already published in the Magazine for April, 1833. The sessions of Nov. 20 and 27, were devoted to elections and to the consideration of various questions, some of which were left unsettled, and others were of so little importance as to induce us to pass by them without furthur notice.

ART. II. — EDITORIAL CORRESPONDENCE.

FLORENCE, DEC. 10, 1832.

MY DEAR F.

The capital cities of the Italian states all present objects of great interest to a medical philosopher. In almost every one you find a University, with its museums of natural history, pathology, and anatomy. These collections are always displayed in spacious and convenient buildings, so that however dilapidated the institution may be as a medical school, traces of the knowledge and industry of their great men can always be found in their museums. We shall never have a permanent advancement in natural history and pathology, in our country, till we have appropriate edifices to invite and receive the labors of scientific men. — My stay at Parma was very short, not long enough to examine attentively the small museum of morbid anatomy, in which I saw three or four specimens of uncommon interest; nor to pay my respects to Prof. Tommasini, the first medical name of Italy, whose liberal opinions have driven him from the Papal University of Bologna, to become the physician of the ex-empress Maria Louisa, the Duchess of Parma. I had afterwards much occasion to regret this, as every medical man I met had much to say about their great medical reformer.

The University of Bologna once held the highest rank of any in Europe, and perhaps in the world, and its medical school has in later years been conducted by men of the highest distinction in our art. At present, its beautiful halls are nearly deserted, and the public teaching of the professors is prohibited, from the fear which his Holiness has, lest the congregating together of the young men should lead to political revolution, by developing some of those principles of liberty, the seeds of which so easily germinate in the bosom of the young, and especially the young of our profession; for I have frequently heard the remark in Italy that the medical students were among the most undaunted asserters of liberal principles. I found at Bologna the museum of the university quite rich in several departments, although exhibiting marks of decay and neglect in the arrangement. In the obstetrical department there was a collection of models in baked clay, representing the different presentations, of the natural size. The os uteri is represented dilated to the size of the fœtal head, and the anterior wall of the uterus is removed, so that the position of the fœtus is perfectly exhibited. This is said to be the best collection of the kind in Europe, and has served as a model for many others.

In the cabinet of comparative anatomy is to be found the stomach of the camel, in a dried state; — the skeleton of the ostrich; — specimens of long bones of several animals softened in acid, and raised in strips to show their lamellated structure; — the renal vessels of the horse beautifully eroded; and the lacteals of the horse injected with mercury.

In the cabinet of pathology I observed a fracture of the neck of the thigh bone which might possibly be a union within the capsular ligament; — two curious skeletons of rachitick subjects, one of which was an old man of 80 years; — a collection of about fifty skulls of insane subjects, which exhibited no common peculiarity, nor any morbid appearances from which a phrenologist, even would build a theory of insanity. There was here, also, a large and interesting collection of aneurisms, and a considerable variety of sarcomatous, medullary and tuberculous preparations. There was here also a wax model of a subject in which there was an extra-pelvic arrangement of the urinary apparatus, like that of which a plate was given in one of the early numbers of the Medical Magazine. The subject was a male.

The cabinet of wax preparations is exceedingly rich; some of its best pieces were prepared by a female artist, Madame Manzolini, whose portrait hangs on the wall. In this cabinet is a very beautiful representation of the absorbent system, showing the vessels, glands, receptaculum chyli, and its opening into the left subclavian vein. There is nothing of the kind in Florence which in my opinion equals this preparation. There is a epresentation in wax of Alibert's arrangement of cutaneous diseases, especially an accurate delineation of pellagra, which strongly resembles Bateman's plate of ichthyosis. There were, also, good representations of albinism and cyanosis. Among the representations in this cabinet, were several of hermaphrodism, which, if they were true to nature, must shake the incredulity of those who disbelieve the existence of this vice of formation to a degree to make the sex doubtful.

In the city where I now am, and where I have passed several days, are to be found some of the most interesting medical institutions of Italy. They are fostered by a government far more rich and liberal than that of any other of the Italian states. The principal hospital is that called Santa Maria Nuova. This is a very beautiful although an anciently founded hospital, dating as far back as the fourteenth century, and is capable of containing twelve hundred patients. These were tolerably well cared for, although not with that minute attention to cleanliness which characterises the French hospitals. Clinical instruction is here given to a small number of medical students, whose general appearance is far more gentlemanlike than that of the average of a French class, where the tatterdemalion appearance is very apt to prevail. The dress of the *internes* is a crimson frock coat with long skirts. In the front part of the breast of the coat they wear the various surgical instruments, in common use, arranged after the manner of a pocket case. This gives them altogether a sanguinary appearance. Medical education in Tuscany takes up more time than with us. The term of medical pupilage in the Tuscan Universities is nominally six years. Four years of this time must be passed in preparatory studies, and two entire and successive years at least must be spent in attendance upon the classes at the universities of Pisa or Sienna. The other two years are allowed to be passed in attending upon the medical instructions given at the medical institutions of an inferior grade to the university schools, and which are called lyceums, of which the school at Florence is one. After the requirement of four years of medical instruction has been complied with, and the necessary examinations have been passed, the candidate for a doctorate is required to pass two years more in seeing the practice of the hospitals, or in some subordinate employment by which the same end is answered, of making the medical student more thoroughly acquainted with his duties before he assumes their responsibilities. Some of the smaller villages of Tuscany of three or four hundred inhabitants, not being able to support a physician among them, have a physician assigned them, who has a salary from government. These physicians usually procure some of the medical students who are advanced to their two last years of probation, to perform their duties for them, for which they generously pay about a quarter part of their salary. The consequences of this protracted pupilage is decidedly advantageous to the young physician, since his employers well know that he must really have practised his profession two years before he receives his diploma. I wonder how our young doctors at home, would relish waiting two years for their beards to grow? We have decided, you know, that waiting three years for the fellowship of the Massachusetts Medical Society, was inexpedient and anti-republican.

The pathological collection belonging to the hospital, Santa Maria Nuova, is probably the best in all Italy. Its present arrangement is very simple and scientific, and under the care of Professor Zanetti, with the immense opportunity this hospital affords, this museum must soon become one of the finest in Europe. In the first, or osteological department, were some specimens of necrosis, exhibiting in a variety of ways the admirable provisions of nature in the formation of new bone; — union of fractured bones; — ununited fractures; — many extraordinary cases of anchylosis with atrophy, especially in the bones of the superior extremity. The beggars in the streets often exhibit to you these atrophied limbs, and the bones in this museum show us that the defect of nutrition in motionless organs is as clearly evinced in the diminution of osseous as of muscular tissue. These specimens of anchylosis are in all degrees, from simple bands of bone, to complete obliteration of articulatory surfaces. The specimens of distorted spines were not numerous, but interesting; especially a gibbosity, without lateral curvature, forming an arc of 90 degrees. — In the second department, that of the muscles, were four cases of irregular distribution of the biceps flexor cubiti, in which this muscle had three heads. In the third, the arterial, were many ossifications, some well preserved aneurisms and dilatations, and several irregular distributions. Among the morbid appearance of the cellular texture in the fourth division, were some cases of fungus hœmatodes and melanosis. A separate division, of glandular alterations, contained the specimens of schirrus. An interesting division, contained the alterations in the structure of the chylopoietic organs — harelip — schirrous pylorus — cancer of the stomach — diseases of the intestines — hernia — artificial anus. — In the division of the morbid appearances of the kindeys, bladder and trostape, were many curious specimens, especially of dilatations of the uriniferous tubes in the kidneys, and of the ureters.

Here were numerous and good specimens of schirrous testicles, of polypi of the uterus, and two admirable specimens of cauliflower excrescence of the uterus, precisely resembling the plate in Dr C. W. Clarke's work. There was an ample collection of biliary, renal and vesical calculi. The department devoted to alterations of the respiratory apparatus was the most deficient. This department contained two good specimens of the false membrane of croup, and an admirable instance of the pleura after empyema, dried and well preserved. The cavity was capable of containing twenty pounds. The professor made use of this to illustrate the disposition of the pleura in its natural state. The museum contained some good models in wax of morbid parts, especially of tubercles, fungus hœmatades, and of cataractous eyes. There was likewise, in this cabinet a specimen of the external female genitals in which the clitoris had attained to two thirds the size of the membrum virile and nearly resembled that organ. This comes the nearest to hermaphrodism of anything I have seen, and does not allow of the doubts which envelope the wax representation in the museum at Bologna. One of the most curious specimens in the collection is a portion of the parietal bone in which the point of a stiletto is projecting through the inner table nearly an inch. This was found so at the patient's death. The scalp had healed over it and the injury occurred twelve years before the patient's death.

Beside the pathological, there is a physiological museum appertaining to the hospital, which is rapidly increasing under the fostering care of Professor Zanetti. In this museum were some beautiful injected preparations. The best of the dried ones were those of the skin made by the hands of Mascagui. A preparation preserved in spirit of the skin of the cheek and ear of a child, exceedingly beautifully done, in which the capillaries were filled with red size, was made by Professor Zanetti. There were also preserved in spirit several beautiful red injections of the mucous membrane, of the intestines, and of the kidneys.

The hospital Bonifazio, which name it gets from its founder in the fourteenth century, Bonifazio Lupi, is a compound institution devoted to a variety of purposes. The most interesting department is that devoted to the insane. There are in this department three hundred and forty patients, who appear to me to be exceedingly well cared for, although I believe it has been customary with medical travellers to speak slightingly of this establishment. The regulations appeared to me to be humane and judicious. The dormitories were clean and well contrived. The water closet was exceedingly ingenious. It was funnel shaped and closed at the bottom, but the weight of the person removed the slide which closed the bottom, and the removal of the weight replaced the slide. The food is conveyed to patients by means of a semicircular turning shelf of marble, in which several cavities are hollowed out to receive the provision, thereby obviating any necessity of utensils. There is a garden of fruit and vegetables, of more than an acre, which is cultivated entirely by the male patients, and is in exceedingly fine order. That for the females is smaller, very tastefully arranged, and devoted entirely to flowers, and cages of canaries and turtle doves. Although so late in the season, I plucked here a beautiful bouquet of roses. This garden is likewise entirely taken care of by the patients. The corridors are long and well aired, and the courts for exercise in bad weather, are large and commodious. One of the rooms is denominated the room of trial, where, in doubtful cases, the patient is first placed, and kept till some satisfactory evidence of insanity or the reverse, is obtained. This trial often lasts for a great while, such is the ingenuity of maniacs in eluding investigation. There is, also, a dark room in which the furious and unmanageable are separately placed, the walls of which are covered with strong cloth and stuffed with straw. They have a revolving machine to control the violent and disobedient by the nausea and giddiness which it produces, but this, I believe, is seldom resorted to. The mischievous have their hands confined by a sort of muff, which is in common use among us, and which was first invented here. The part of the institution which pleased me least, was the room of the convalescents, in which thirty or forty people in various stages of recovery, and under various degrees of restraint, were placed together, tormenting each other with their 'methodical madness.' Some twenty or thirty *religieuses* have the care of this establishment. Their general appearance differs as much from that of the *Soeurs de la Charité*, of France, as a Bacchante from a Madonna. The Italian nuns are covered with a straw hat, and their large dark eyes have a laughing mischievous look; while the French nurses are covered with their plain white muslin head-dress, and their deportment, for the most part, is a model of severe dignity.

The foundling hospital, called *de gl' Innocénti*, receives annually from 1500 to 1800 infants, mostly deserted children. At this time it contains only 10. The children are sent into the country as soon as possible after they are received, and placed with healthy women at nurse, until they arrive at a certain age. The persons who receive them have a monthly pay, until they are old enough to be put to some useful employment. This is found to be the only way in which the children of a foundling hospital can be preserved. So sure as they are crowded together in large numbers, whatever may be the care taken of them, their lives are invariably endangered by a succession of infantile endemics, from the fatal effects of some of which, but few escape.

A lying-in hospital has been attached to the last named institution, during the present century. At this hospital, delivery is effected in a chair, constructed for the purpose; and if the travail is laborious, a machine bed is made use of. Both are ingenious, but frightful, particularly the latter, which, with its peck of saw-dust strewed upon the floor, gives one an idea of the guillotine. The professor gives lessons to a small class of young women, one of whom being called upon to recite, in my presence and that of several other strangers, described the phenomena of coitus, conception, development, and delivery, with great volubility and infinite grace and modesty. The cabinet contained the most admirable collection of fœtuses I have ever witnessed, from nine days to nine months; and a good collection of distortions of the pelvis. There were, also, preparations in wax, representing the presentations, &c; and, as in all the Italian museums, a large number of fœtal monsters, double children, &c, &c.

Annexed to the hospital Bonifazio, are several wards for the reception of diseases of the skin. Here I found but twenty patients, but among them admirable specimens of each of the rare diseases, rupia and pemphigus. The rupia was entirely upon the face in as many as twenty spots, and had existed nine months.

Every one has heard of the collection of anatomical wax work, in *la Specola*, the museum of natural history. This is said to have been commenced by the abbé Fontana for the instruction of some royal amateurs, his pupils, to preserve them from the disgust of actual dissections. These were afterwards exhibited to the public, and are the commencement of the very extensive series now contained in this museum. The best of these preparations are those describing the muscles. Every muscle of the body appears to be perfectly delineated. After the muscles, come the bones, then the blood vessels — the nerves — the internal organs — the brain, &c. The whole forms a complete collection for the student of anatomy, although there is quite a different degree of merit in the different departments. It is quite easy to perceive that the whole collection is better fitted for the amateur than the practical anatomist.

Florence, although the cleanest and most beautiful city of Italy, can hardly boast of being the most healthy. The cold and piercing wind from the Appenines, carries a severe chill to every exposed situation, so that you cannot walk a mile in winter without passing through two or three gradations of temperature, which seem like different climates. The most common diseases of the hospitals are the acute and chronic diseases of the chest. Opthalmias, and other inflammations, are also exceedingly common, as is likewise rheumatism. But I propose to remark on the climate of some of the Italian cities, in another letter. P.

Art. III. — Contributions to Pathological Anatomy.

No. I.

Aneurism of the aorta. — Sept. 2, 1829, Mr C. S. aged about 50, was found lying in a state of insensibility on the floor, near a charcoal fire, in the room where he had been at work. He had lost the power of speech and voluntary motion; the countenance was pale, the skin cold, the pulse hardly perceptible and the respiration was slow, irregular, and sighing. He was immediately carried into the open air and such stimulants as were at hand, consisting of brandy and camphor, were given to him in small quantities. There was soon a gradual return of sensibility and consciousness, and he complained of headache. On being removed to his house and covered with hot blankets. his skin became warm, his pulse acquired strength and fullness, and he had a free alvine evacuation. For several months he had felt a violent pain in the head on rising from bed in the morning, but had attended regularly to his work, and had complained of no other indisposition. He had previously enjoyed very uniform good health. He was now bled to the amount of fifteen or twenty ounces, and in a few days was quite well. Ten days subsequent to this attack, soon after going to bed, he rose up suddenly, exclaimed, '*I feel sick — I am faint,*' sunk back upon his pillow, and immediately expired.

Examination, fourteen hours after death. On turning back the sternum, the whole anterior and middle part of the cavity of the chest was occupied by the distended pericardium. The edges only of the lungs were visible running along each side of the thorax near the line of the incision through the cartilages of the ribs. The pericardium was opened and nearly a pint of serum, occupying the anterior part of the cavity, removed by a sponge. The pericardium contained between one and two pounds of coagulum. There were three distinct aneurismal sacs, varying in size, but all situated immediately above the sigmoid valves. One of these, easily admitted the end of the thumb, — the other two were smaller. Their coats were of a purplish color, thin and easily torn. In the extremity of the largest sac, there was a perforation as large as a crow quill, through which the blood had been poured out into the pericardium. The artery in the neighborhood of the aneurisms appeared to be sound. Mr S. attributed the attack of Sept. 2, to the gas from the burning charcoal, but he and others had repeatedly worked in the same room, under similar circumstances, without feeling any effects from this cause. In the spring of 1826, Mr A. D. aged about 40, in full health, and of a plethoric habit, while standing by the counter, in his shop, soon after having dined, fell suddenly upon the floor, and when raised up, was dead. The pericardium was found distended with a large quantity of coagulated blood, and near the origin of the aorta, there was a single aneurismal sac, about one third of an inch in diameter at its base, and nearly of the same depth. Its parietes were thin, and at its summit there was a small rupture through which the blood had flowed into the pericardium.

ART. IV.—ON THE INFLUENCE OF PHYSICAL AGENTS ON LIFE.

BY W. F. EDWARDS, M. D., F. R. S. *With Notes*, BY DR HODGKIN, *London.*

[Continued from page 92.]

MAN, in reference to his physical structure, has been classed with the Mammalia — mechanical agents, sudden changes of temperature, impure air, and all the varied combinations of physical power produce their effects upon him as promptly as upon all other animals of the same class. We have seen that warm-blooded animals, born with closed eyes, when exposed to the air, lose their heat as rapidly as cold-blooded vertebral animals, but that those whose eyes are open at birth, maintain during warm weather a pretty uniformly high temperature, although cold reduces the temperature of their bodies, much more than in adults. From analogy we should therefore suppose that if a child was born prematurely, while the pupils were covered with the *membrana pupillaris*, its power of producing heat would be very feeble. It is impossible to perform experiments on the human subject like those performed on animals, but analogy and observation furnish at all times satisfactory data. Dr Edwards found that the temperature of a seven-months' child, three hours after birth, was only 89° 6′ Fahrenheit. This child was well swathed and near a good fire. The temperature of different individuals varies, and in order, therefore, to come at a correct average, the experiment must be performed upon a number. He found that the mean temperature of twenty adult individuals was 97° Fahrenheit. That of ten healthy infants was 94° 55′ Fahrenheit. These experiments prove that the power of producing heat differs at different periods of life, and that it is at its 'minimum at birth.'

Is not this contrary to the generally received opinion? Do not some physicians, at the present day, believe that infants have a greater power of producing heat than adults, and do they not therefore recommend a smaller quantity of clothing for the former than for the latter? Is not this one cause of the great mortality among children? Children, however, can bear a reduction of temperature better than adults, and recover from its deleterious effects more perfectly, but let us hear the practical application of the Doctor upon the subject of exposing children unprotected, to a cold atmosphere.

'Very important considerations result from the difference of constitution at different periods of life — if the attention which children require in climates and seasons little favorable to the preservation of their existence, were generally understood and put in practice, it would considerably reduce one of the most powerful sources of mortality affecting that age, in our climate. It is not confined to children whom the misery of their parents cannot guard from the rigor of the weather, but it operates to a great extent, without being either perceived or suspected, in families enjoying affluence, and in which it is believed that the necessary precautions are taken, because cold, being relative, it is difficult from our own feelings, to judge of its effects on others, and because it does not always manifest itself by determinate and uniform sensation. They do not feel the cold, but they have an uneasiness, or an indisposition, which arises from it; their constitution becomes deteriorated by passing the alternations of health and disease, and they sink under the action of an unknown cause. It is more likely to be unknown, because the injurious effects of cold do not always manifest themselves during, or immediately after its application. The changes are at first insensible, they increase by the repetition of the impression, or by its long duration, and the constitution is altered without the effect being suspected.

'There is a general precaution which would tend to prevent these effects, and which it is sufficient here merely to mention. It is to watch the changes which may come on during health, at the decline of the year, and in the course of the cold season; and however little, it may be liable to derangement, to preserve heat by a warmer clothing. If the clothing is adapted to the wants of the individual, it will contribute powerfully to guard from the alternations, dependent on the influence of the season; he will enjoy at the same time the advantage of being exposed to the open air, in conditions of the atmosphere, which would not injure his health.

'In countries in which the cold is excessive, the feelings so strongly impress upon the inhabitants the necessity of guarding their children against it, that the particular care which they take, renders this cause of mortality perhaps less in them, than it is in temperate countries. It is sufficient, then, to feel the necessity, in order to find suitable means to meet it. These means are referable to several heads: 1. The modifications of the air to adapt it to the system: 2. The preservation of the natural heat by clothing: 3. The changes to be produced in the constitution of the individual, in order to increase his power of developing heat, so as to extend the limits of atmospheric variations, to which he may be exposed, without danger.'

We have seen that the batrachian reptile can live under water for a long time, by means of cutaneous respiration, provided the temperature of the water is between 32° and 50° Fahrenheit; but if the temperature be raised, while the animals are restricted to the same limited respiration, they soon die. Frogs, buried in plaster, live longer when the temperature is low, than when it is high. Animals can bear a limited respiration better in winter than in summer. If the eighth pair of nerves are divided in puppies, the opening of the glottis is so much diminished, that a small quantity of air only can enter the lungs, which in summer, will not support life more than half an hour; but in winter, it will be maintained for a whole day, provided the animals are exposed to the benumbing effects of cold. In the first case, the small quantity of air cannot counteract the effects of heat, but in the latter, it is enough to prolong life to a considerable extent. The Doctor says:

'Apply the principle to man. A person is asphyxiated by an excessive quantity of carbonic acid in the air which he breathes, the beating of the pulse is no longer sensible, the respiratory movements are not seen, his temperature, however, is still elevated.

'How should we act to recall life? Although the action of the respiratory organs is no longer visible, all communication with the air is not cut off. The air is in contact with the skin, upon which it exerts a vivifying influence; it is also in contact with the lungs, in which it is renewed by the agitation which is constantly taking place in the atmosphere, and by the heat of the body, which rarifies it. The heart continues to beat, and maintains a certain degree of circulation, although not perceptible by the pulse. The temperature of the body is too high to allow the feeble respiration to produce upon the system all the effect of which it is susceptible. The temperature must then be reduced, the patient must be withdrawn from the deleterious atmosphere, stripped of his clothes, that the air may have a more extended action on the skin, exposed to the cold, although it be in winter, and cold water thrown upon his face, until the respiratory movements reappear. This is precisely the treatment adopted in practice to revive an individual in a state of asphyxia. If, instead of cold, continued warmth were to be applied, it would be one of the most effectual means of extinguishing life. This consequence, like the former, is confirmed by experience.'

When a person is faint, or has a violent attack of asthma, the most ignorant use, as remedies, exposure to the air, refrigeration, sprinkling with cold water, although they are unacquainted with the principle on which they act. Would not the chance of resusitating a new-born asphyxiated child be greater, by inflating its lungs, while the surface of its body was exposed to the free action of the atmosphere, than if it was immersed in warm water? Is not the condition of the child the same as that of a man, who is asphyxiated from impure air? If so, the same remedies, which are serviceable in the latter case, should be in the former.

The chapter on perspiration is a very interesting one. The Doctor has examined the subject in a satisfactory manner. Sanctorius was engaged many years in ascertaining the variations in the quantity of perspired matter, and the relations which they bear to the food, the alvine evacuations, and other perceptible secretions, to the states of sleeping and waking, of exercise and rest, of ease and of suffering, of sickness and health, to the passions, and to the period of day and night; but he did not take into consideration the influence of external agents on the secretions; he did not examine the hygrometric state of the air, its motion and rest, or the influence of atmospheric pressure. Dr E. has done this. He considers perspiration a complex function, partly physical and partly vital. All losses by perspiration are referable to these two modes of action, viz. evaporation, which is a physical process, or transudation, which is a vital action. Perspiration, by evaporation, is a consequence of the porosity of organized bodies, it takes place in the dead, as well as in the living; but perspiration by transudation is a secretion, and depends like other secretions, upon causes inherent in the living economy. The hygrometric state, the motion and pressure of the atmosphere, act upon the skin only in a physical manner, they diminish the mass of liquids, by converting them into vapor. It is but a short period since natural philosophers have ascertained that the diminution of pressure upon liquids, aids their conversion into vapor. This fact would lead us at once to suppose that the influence of atmospheric pressure upon perspiration, by evaporation, was not inconsiderable. Dr E. says:

'One of the situations in which perspiration by evaporation is considerably increased, is found in the higher regions of the atmosphere, upon high mountains. Many persons experience in such situations distress and anxiety in the chest, which they refer only to the rarefaction of the air, limiting the extent of respiration.' * * * * * 'The rarefaction of the air in high situations, is accompanied, in fine weather, by a considerable dryness, and hence such an increase of perspiration by evaporation, not only from the skin, but from the lungs, that the loss of water suffered by those, will produce a feeling of distress in the chest, proportionate to the desiccation.' * * * 'In arid districts, effects are likewise ascribed to the heat of the air, and of the wind, which arise in a great degree from the evaporation occasioned by the dryness of the atmosphere. Dr Knox, who travelled in the interior of Africa, to the north of the Cape of Good Hope, has related to me facts which justify this opinion.'

Dr Edwards, from his experiments on frogs, had satisfied his own mind, that animals, both warm and cold-blooded, do imbibe moisture from the atmosphere, when this is humid; but in order to place the subject in a less equivocal light, he performed experiments on adders, and guinea-pigs, which demonstrated this fact. Gorter, Keill, and Lining, may be quoted in connexion with Dr E. as furnishing facts in proof of the absorption of aqueous vapor. Absorption, however, will not take place beyond the point of saturation, as proved by the Doctor's experiments on frogs. The body recedes from the point of saturation, by the losses which perspiration occasions, and absorption takes place in consequence, in order to supply the deficiency.

Dr E. compared the power of cooling in dry air, vesicular vapor, and water, at temperatures inferior to that of the body. In dry air there is less heat carried off from the body, but the evaporation is greater, and of course, in this latter case, the cooling effect must be greater. He made ten experiments in dry air, and as many in humid, upon young sparrows. The average of refrigeration for the dry air, was 11° 7′ Fahrenheit, and for the humid, 12° Fahrenheit. These experiments prove that the cooling process was nearly the same in both states of the atmosphere, and hence it follows, that the cold produced by the greater evaporation in the dry air, was balanced by the cold resulting from the contact of the humid air. Dr Alexander Fisher, who went with Capt. Parry in his second expedition to the arctic regions, says that the temperature always rose with the wind, whatever might be its direction. They suffered more cold in a breeze, when the temperature was 20° Fahrenheit, than at 0° Fahrenheit, when the air was at rest. Dr E. accounts for this, from the fact that a current of air increases the quantity of heat taken away by contact. Evaporation would take place more rapidly, likewise, in a current of air, than it would when the element was at rest. 'To these causes combined, therefore, are we to attribute the strong feeling of cold we experience, when no other change of the atmosphere occurs, than the rapidity of its current.'

The chapters fifteen and sixteen, 'on the influence of light upon the developement of the body, and the alterations in the air from respiration,' are full of interest; but I fear I have already been too prolix. I will, however, say in reference to them, that the author has done them full justice, as he has all other subjects upon which he has bent his philosophic mind.

The appendix occupies 200 pages, and contains some '*Observations on Electricity, by* Dr Edwards, M. Pauillet, and Luke Howard, F.R.S.' and an article '*On Absorption and the Uses of the Spleen*; *by* Dr Hodgkin; together with a very interesting paper '*On the Microscopic Characters of the Animal Tissues and Fluids; by* J. J. Lester, and Dr Hodgkin.'

I will pass over the article on electricity, with the simple observation, that it will richly repay the reader for his time in minutely examining it, and give Dr Hodgkin one word of advice in reference to his paper on absorption. It is printed in Latin, and occupies between thirty and forty pages of the work. I presume the paper is a good one, but I would ask, what portion of the profession will read it? Not one in a hundred, I will venture to say, would take the pains to, brush up his memory of that language, in order to grope his way through thirty pages on the '*absorbent functions*.' Why did not the Doctor translate it into 'pure English,' and then if there was any value in his '*observations*,' they would be rendered more useful, by being more universally known. It savors too much of pedantry, at the present day, to publish a dissertation in Latin, or to intersperse English with Latin phrases. I would not, however, attribute this feeling to the Doctor, but I would impute the mistake to an error of judgment. If this work should be republished in this country, (and I hope it will be soon) I would advise the publisher to leave out the article on 'absorbent functions,' or have it translated.

The paper 'on the microscopic character of some of the animal fluids and tissues,' is very interesting. The experiments therein detailed, were performed by Lester and Hodgkin. They found, on examining the particles of blood, that they consisted of 'circular, flattened, transparent cakes, which, when seen singly, appear nearly or quite colorless. Their edges are rounded, and being the thickest part, occasion a depression in the middle, which exists on both surfaces.' Their observations on the blood of all the classes of vertebrated animals, correspond with those of Prevost and Dumas. In the mammalia, the particles of blood are of a circular form, but in the other classes they are elliptical. When the blood of the mammalia is examined, after having been placed between two slips of glass, so that the attraction occasioned by one slip is counteracted by the other, 'considerable agitation is at first seen to take place among the particles, but as this subsides, they apply themselves to each other by their broad surfaces, and form piles, or rouleaux, which are sometimes of considerable length. These rouleaux often again combine among themselves, the end of one being attached to the side of another, producing at times very curious ramifications.

'When blood, containing elliptical particles, is examined in the same manner, it exhibits a not less remarkable, but very different mode of arrangement. Though they are applied to each other by some part of their broad sides, they are not so completely matched one to another, as is the case with circular particles, and instead of placing themselves at right angles to the glass, with their edge presented to its surface, they are generally seen nearly parallel to it, one particle partially overlaying another, and their long diameters being nearly in the same line.'

They examined the blood of cholera patients, and found that the particles possessed their form, and other characters, completely unaltered.

Chyle. When a small quantity of chyle was put between two pieces of glass, it was found to exhibit a minute number of extreme small particles, in a state of constant agitation. When first taken it was quite white, but it soon acquired a pink blush. A solution of the oxymuriate of potash heightened this hue, but both acid and alkaline solutions discharged it. This fact should be held in view, when examining the observations of Dr Stevens.

Milk. 'In this fluid the particles appear to be perfect, and very transparent globules.'

Pus. The particles of this secretion are irregular in size and figure, but bear no resemblance to those of blood.

Muscle. This tissue was found to be composed of bundles of fibres, held together by a loose and fine cellular membrane, and these fibres are again found to be composed of small and minute fibrillæ.

Arteries. The middle coat of arteries is believed by many to be muscular, and it was therefore minutely examined, and found to 'consist of long, straight, very delicate, and even fibres, which offer no more trace of those transverse striæ, which we have regarded as the peculiar characterestic of muscles, than they do of alimentary globules.

Nerves. 'These are composed of fibres, but their structure is looser than that of muscle.'

Cellular Membrane. 'This tissue is composed of delicate fibres, assembled together without any apparent order or arrangement.'

Serous Membranes. The structure of these membranes has a close resemblance to that of the cellular.

Mucous Membrane. Their examination of this tissue has not been completed. The structure of the brain, and other parenchymatus parts, appears to present neither globule nor fibre.

I have thus given a faithful analysis of some of the important subjects contained in this volume, and in examining its contents, I can truly say, that I have never enjoyed a richer mental feast. It is a book that should be found in the hands of every friend of science and experimental philosophy.

ART. V. — OBSERVATIONS ON A CEPHALIC BELLOWS-SOUND.

By JOHN D. FISHER, M. D.

Read before the Boston Society for Medical Improvement.

I PROPOSE, gentlemen, at this time, to speak of a symptom which I have noticed during the past year, and which, so far as my knowledge extends, has never yet been described, and I presume has never before been detected. The symptom to which I have alluded, is a cephalic bellows-sound — whether it is always the result of cerebral disease or of deranged action of the organ in which it takes place, future observations must determine; and it is for the purpose of soliciting observations to settle this point, I am induced to direct your attention to it at this early period of its history. I shall first relate the cases in which I heard this new symptom, and will afterwards suggest an explanation of its production in them.

It was in July, 1832, a little more than a half a year ago, that I first discovered the existence of a bellows-sound in the head. The subject in whom I heard it, was formerly a patient of mine, but was at that time under the care of Dr Thaxter, of Dorchester. This child being then two years and a half old, had been feeble from birth, and was affected with dropsy in the head of the chronic form. His head was unusually large, the fontanelles were widely open, and the coronal and sagittal sutures were separated to a considerable extent. His sight, hearing, and mental faculties were good; but he had never yet spoken a word, nor exhibited any power of imitating sounds. Having examined this child's head by the senses of sight and touch, I had the curiosity to apply my ear over the anterior fontanelle, which was much distended and was observed to pulsate strongly; and to my surprise I heard a very loud and distinct bellows-sound, resembling that which certain diseases of the heart give rise to. The sound was audible over every part of the head, but was most distinct, as I thought, at the anterior fontanelle. It was synchronous with the arterial pulse, and with the rising and impulse of the brain at the fontanelle. Thinking that it might possibly arise from a disease of the heart, and be transmitted, I carefully examined this organ, and also the great vessels passing from it, but no bellows-sound could be detected in them, or in any artery or organ below the head. Besides this bellows-sound, the murmur of respiration and the resonance of the voice were distinctly heard; but these sounds were distinct from, and were independent of, each other. The child gradually improved in health under the treatment prescribed for it, and is now apparently free from any dropsical affection. His head has diminished in size, and measures less than it measured one year ago. The sutures and the posterior fontanelle are closed and firm, but the anterior fontanelle is not yet perfectly ossified. The mental powers of the child do not appear to have been affected by the disease, as they are now as active as those of children of his age generally are. He began to imitate sounds and articulate words about four months ago, and is now able to talk as fast, and to pronounce as correctly as any other child. During the existence of the malady a curvature of his spine took place, so that he is not, and I fear never will be, able to walk. I have had frequent opportunities of auscultating this patient's head during the past year, and since I made my first observations; and I noticed that as the symptoms of the dropsical affection disappeared, the bellows-sound became less and less distinct, and finally ceased — so that during the last four months I have not been able to detect it. I have this day, July 13th, 1833, examined for the sound, but it does not exist.

The second subject in whom I noticed the cephalic bellows-sound, was a little girl aged four years, who had fallen from a second story window of the United States arsenal, at Watertown, and struck her head upon the pavement below. She was taken up senseless, and lifeless, as was supposed by her friends. She was soon visited by Dr Hosmer, who after an examination, decided that she was laboring under a severe congestion and inflammation of the brain, independent of any fracture of the skull. He immediately bled her, and prescribed other appropriate remedies. Happening to be at Watertown a few hours after the accident occurred, I visited the patient with Dr Hosmer, and found her still senseless, and exhibiting symptoms indicative of severe cerebral inflammation. On applying the stethoscope upon her head, I discovered a sound similar to that detected in the preceding case. It was synchronous with the arterial pulse, and was readily detected by Dr Hosmer. Active antiphlogistic treatment was continued during the night, and on the next morning the child appeared evidently better. We found the bellows-sound still present; but it was not so distinctly heard as on the previous evening. At my request Dr Hosmer paid particular attention to this new symptom, and he reported that 'the bellows-sound continued to be heard while the inflammation was active, and that it by degrees died away, as the inflammatory symptoms abated.' The child finally recovered, and is now healthy.

The next individual in whom I heard the sound was a lad aged nine years, who resided in Milton, and was a patient of Dr Ware of that place. The following are the notes which I made of the case on the 5th of October, 1832. He has been sick for a long time with some affection, as has been supposed, of the head, which is now of unusual diameter, and much deformed. His eyes project very much, and appear to be thrown forwards from their sockets. The left eyelid is morbidly distended, hangs loosely over and completely covers the globe of the eye. The pupil of each eye is much dilated, and that of the left eye is so much so that its diameter corresponds very nearly with that of the cornea. The boy, however, sees quite well, and his other external senses are perfect. His mental powers, those of memory and judgment in particular, are feeble; and he is represented to have lost, in a gradual manner, the power of remembering events of daily occurrence. His appetite and digestion remain tolerably good — yet he has become much emaciated, and is now, and has for a long time been unable to walk. On placing the stethoscope upon the head I hear a feeble bellows-sound. It appears rather loudest I think, when the instrument is applied over the anterior portion of the sagittal suture, although it is distinctly audible at other parts of the head. The sound corresponds with the pulse, and is sharp, short and coarse. The respiration is heard very distinctly, and the sound produced by it, during inspiration, seems to pass up through the instrument from the head, while during expiration it appears to be forced from the ear through the stethoscope to the head. The resonance of the voice, when he speaks, seems to be playing around the rim of the instrument, and is loud and sometimes painful to the ear. This unfortunate lad is now living, and presents nearly the same symptoms that he exhibited when I first saw him.

As yet I had not had an opportunity, from post-mortem examination, of determining decidedly that this cephalic sound accompanied a disease within the cranium; although the rational symptoms declared its existence. But in the three subsequent cases in which the sound was present, such examinations proved it to be, if not the result, yet the companion of actual cephalic derangement.

In April last a lad aged nine years, and a child aged three, were under my care at the same time, who exhibited all the common and acknowledged symptoms of acute hydrocephalus. The cephalic bellows-sound was present in both. In the oldest boy the sound was loudest, and in both it differed somewhat from that heard in the cases already related. It was of longer duration, more diffused, and softer. I compared it at the time to the sound produced by the rubbing of two pieces of soft and polished soap-stone together. Occasionally from an interrupted sound it passed into a continuous murmur. This change in its character was noticed particularly during long intervals of respiration, when the freedom of the circulation was in a degree obstructed. The sound in the oldest patient was also characterized by a sort of singing, or buzzing; resembling strikingly that of a mosqueto, and might have been denominated the musical bellows-sound. The sounds in both patients corresponded with the pulse and were heard distinctly for several days. The oldest boy was sick, or was under medical treatment twelve, and the youngest thirteen, days. In the former, I detected the bellows-sound seven days, and in the latter five days previous to their death. In both it was feeble when first heard, but it gradually increased in strength and continued to be loud and distinct until the physical forces began to sink. It then became less and less audible in proportion as these powers failed, and the force of the arterial pulse diminished. In the youngest child the respiration became very quick and hurried, and its murmur, as heard through the head, was for a moment confounded by myself, Drs Ware and J. S. B. Jackson, with the bellows-sound. A little increased attention, however, soon enabled us not only to recognise each sound, but to distinguish the one from the other.

On examining these subjects after death, a decided flattening of the convolutions of the brain was observed—the blood-vessels on the surface, at the base, and in the substance of the organ were much engorged and distended, and a considerable quantity of serum was found between its membranes, in its ventricles, and at its base.

The sixth and last opportunity that I have had of observing the cephalic bellows-sound in disease, was lately furnished me by the secretary of this Society. The following is a brief notice of the case, as recorded in my case-book, immediately after my examination was made:—June 23d, 1833: I have just examined a child by the name of Charles Bordman, aged seven months, who is a patient of Dr J. S. B. Jackson. Dr Jackson pronounces the disease under which the child suffers, to be dropsy in the head.

This opinion is founded upon the symptoms which the child has exhibited and those which are now present, viz.: drowsiness and a constant disposition to sleep, stertorous breathing, dilated and insensible pupils, spasms, &c. Besides these characteristic symptoms, Dr J. detected yesterday a strongly marked bellows-sound in the head, and observed that he did not recollect of ever having heard it more distinctly in any case of cardiac disease. I recognised it at once on whatever part of the head I placed my ear. It is exactly synchronous with the pulsations of the carotid and temporal arteries, and occurs one hundred and sixty times in a minute. The sound is distinct from that of respiration, and ceases to be heard on compressing the carotid arteries. The anterior fontanelle is open and a strong impulse is seen and felt against it. On the next day I added the following to the above note: — June 24th. The child died at five o'clock, this morning, and was examined at three o'clock, this afternoon. The right half of the brain was much more developed than the left; the convolutions of the whole organ were flattened and the blood vessels moderately distended. Lymph was effused under the pia-mater, and a small quantity of serum was found in the ventricles, and at the base of the brain. The whole cerebral substance was soft and watery, and yielded a considerable quantity of limpid fluid on being dissected. These six are the only cases of cerebral affliction which have come under my notice since I first discovered a cephalic bellows-sound. In all of these the sound, as has been stated, was very distinct. Whether it be present in all diseases of the brain, future observation must determine. Having heard the sound the second time, the idea occurred to me that it might be a normal one, and the unceasing result of health. To determine this point I immediately began to examine the heads of healthy persons of all ages, and from many careful and repeated observations I find that in children, previous to the commencement of dentition, auscultation discovers no sound in the head resembling the bellows-sound. The sound produced by the impinging of the air during respiration, against the walls of the nasal cavities; those produced by the act of swallowing and of speaking, and by the heart's motions, can be easily heard and distinguished from each other. In children during the process of dentition I have, besides the sounds just mentioned, frequently detected a cephalic bellows-sound. The sound was not present in all teething children, but in those only who suffered much from the process of dentition. And in these, the cephalic bellows-sound differed somewhat from that which was heard in the patients who died of dropsy in the brain, in being more abrupt, shorter and less diffused. It might have been denominated the bruit de rape rather than bruit de soufflet, as it resembled more strikingly the action of a file than of a bellows. And in no instance have I noticed it to pass into a continuous murmur or to assume a musical tone. It maintained one uniform character.

It was in the early period of the first dentition and previously to the closure of the anterior fontanelle, that the sound was most frequently and distinctly heard. In one instance only have I heard it, after the development of the first twenty teeth; and in this one instance the boy was cutting the remaining double teeth. Neither in healthy adults or aged persons have I been able to detect the sound, although I have repeatedly and with great attention auscultated the heads of such subjects to ascertain if it did exist in them. I have not as yet discovered that the cephalic bellows-sound accompanies any malady, other than those which mediately or immediately affect the brain. In a case of severe peripneumony, however, I recollect that the sound existed. It was loud and well marked, and was heard by Dr James Jackson, who saw the child with me; but the little patient was cutting its teeth and had suffered much from the process. In two cases of hooping cough I noticed the sound very distinctly, when I applied my ear upon the patient's head at the instance the paroxysm of coughing ceased. The sound continued but for a moment, and only while the face continued to be flushed by the accumulation of blood in and about the head. I have seated myself for a long time by the child, and waited patiently for the return of the fit of coughing that I might, by repeated observations, satisfy myself of the truth of the fact above stated. In every instance of severe coughing the sound was produced, but it disappeared as soon as the child began to breath freely, and the circulation became again unobstructed and natural. Such are the facts which I have collected in relation to this new phenomenon. The first time I noticed the sound I imagined that it might be a pathognomonic symptom of dropsy of the head, but when I detected it in the two next cases, I was induced to believe that it might not only be a sure symptom of dropsy in the head, but also of inflammation of the brain, and finally of any disorder which might cause a compression of that organ. Its presence in the three next cases of cerebral desease strengthened this opinion. Subsequent observations, however, led me to doubt the validity of this conclusion, and to realize the truth of Muschembrok's declaration, that

Pauca facta nos gloriosos et temerarios faciunt; plurima incertos: innumerabilia nos ad conclusionem parant.

But whatever may be its diagnostic importance, the sound as described, does under certain circumstances, most certainly exist; and that it takes place within the head is evident from the facts which have been stated. We are then naturally led to inquire, 1st. In what organ or organs did this sound originate? 2dly. In what part of the cranium was it seated? and 3dly. What was the immediate cause of its production in the cases I have described?

It is very clearly proved, I think, by the observations made in the preceding cases, that the sound originated in the arteries. For in the first place, the sound was distinct from that produced by respiration, by deglutition, muscular action, or any other operation going on within the head, that we can conceive of, save arterial action. Secondly, it was synchronous with the pulsations and impulse of the heart, and of the carotid and temporal arteries, and also with the rising and impulse of the brain as observed by placing the finger upon the unclosed fontanelle. Thirdly, the sound ceased to be heard, or at any rate was rendered less distinct, by compressing the carotid arteries and arresting the circulation in them, and it became less audible as the patient grew weak and the pulse feeble. Fourthly, it resembled in all respects the bruit de soufflet which we hear in diseases of the heart and of the arteries, and particularly in aneurism of the latter vessels. Fifthly, in looking at the structure and composition of the organs contained within the cranium, we must be convinced that the arteries were the only organs which could have sent forth a bellows-sound like those I have noticed. Assuming it as proved that the sound proceeded from the arteries, I may further observe that those situated at the base of the brain, were probably the ones in which it originated. I infer this from a consideration of the distribution of the arteries within the head. Anatomy teaches us that all those of any considerable size are situated at the base of the brain, and rest upon unyielding bony structure. Having passed through their appropriate apertures and osseous canals, they course along upon the base of the skull and in furrows formed for them in the brain, and soon subdivide and spread themselves upon the pia-mater, and do not actually enter the substance of the brain until they become mere capillary vessels. There is, therefore, no artery existing in the cerebral substance, and no one running over its surface, of sufficient caliber to send forth a bellows-sound as distinct and audible as were those I have heard. For to produce a bellows-sound in an artery artificially, I find that the artery must be of considerable size and must rest upon rather an unyielding surface, otherwise it will not be placed in a condition necessary for the production of the sound. A further proof that the arteries at the base of the brain were the seat of the phenomenon, is derived from the motions of the brain as seen and felt at the fontanelle. These are evidently caused by the pulsations of the arteries on which the organ rests. The bellows-sound always accompanies and is synchronous with the elevation of the cerebral mass; and as there is no other cause to account for this, it follows that the sound must have arisen from these vessels. The facility with which it was heard at the summit of the cranium is no argument against this conclusion. For the brain is an excellent conductor of sound, as is proved by the fact that it readily transmits the noise produced by the action of a watch. If then the bellows-sound proceeded from the arteries at the base of the brain, its production in the cases I have mentioned may be readily accounted for. It is now a well established fact that the bellows-sound of the heart and of the arteries arises from an impediment to the flow of the blood through these organs. The cephalic bellows-sound which I have described, unquestionably arose from such a cause. In all the cases in which it was present, there was either dropsy of the brain or a congestion of the blood vessels within it; and the brain being incompressible and acted upon by these causes, was forced against the arteries at its base, and must have contracted them at certain points. This condition of the arteries obstructed in a degree the passage of the blood through them, and was the immediate cause of the cephalic bellows-sound. If this be the true explanation of the existence of the sound we may expect its presence in all diseases which may in any considerable degree compress the brain, and we may perhaps venture to hope that a physical sign has been discovered, which will prove to be a pathognomonic symptom of cerebral disease. I trust that the members of this association will devote some attention to this new symptom, and will from time to time report the cases in which they may hear it.

ART. VI. — MEDICAL ETHICS.

THERE is no department of morality in which more gross and lamentable instances of departure from principle, honor, and decorum occur, than those which are occasionally exhibited in that which regards the relation of physician and patient. There are some individuals in every profession, however honorable and elevated its objects, who resort to, and exercise it, only with the most sordid and illiberal views. It is to restrain, if possible, such unworthy members, and not chiefly to establish a fee-bill, as some seem to think, that physicians here and elsewhere have associated, and mutually pledged themselves to the observance of certain rules of professional conduct and intercourse, which are calculated to maintain the respectability of their profession, by securing decorum and the exercise of self-respect among its members. But, although these regulations are found to be eminently useful, reinforced as they are in our community, by a general sense of what is honorable and becoming in the relation to which they apply, there are even here a few men, professing to be governed by them, who are either so essentially vulgar and selfish as to be incapable of appreciating the virtue of a rule founded in generous and refined sentiment, or else so audaciously base as wantonly to violate their engagements to an association, in the honors and advantages of which they have sought and obtained participation. Such persons seem to consider the medical profession a mere mercenary art or craft, the proper exercise of which consists in an undignified scramble for business, in which their associates, as a matter of course, are constantly regarded as rivals or enemies, instead of friendly colaborators in a science and art, which, even in their present imperfect state, are of the utmost value to society, and which justly claim from every one to whom they yield a support, some contribution to the common effort of their professors, to render them more perfect, more respectable, and more useful to their fellow-men.

Instead of resting their hopes of success on a good education, industrious habits, good manners, and good principles, — qualities constituting a claim for patronage, which they are bound to presume that an intelligent people will voluntarily and gratefully acknowledge, — they talk of *getting* patients, just as the worldling talks of *getting* money, or the politician of *getting* votes, and are as little scrupulous as either of these in the means they employ. It is curious to observe the various mean arts and manœuvres by which these *patient-getting* doctors accomplish their sordid purpose — pushing for an acquaintance in families where, by the customs of society, they have no claim to it — making uninvited calls in newly established families — talking perpetually of their practice, their patients and other professional matters in promiscuous assemblies, at the corners of the streets, and in shops or bar-rooms — vaunting their success in the management of difficult cases, mostly fictitious, in the presence of credulous invalids, and gossipping nurses — manifesting great inquisitiveness about persons who happen to be sick in the neighborhood, and intimating to their friends that they are sick a long time compared with several that they have treated for the same complaint — if old, magnifying the advantages of experience, with a solemn caution against novices; if young, aiming at the same impression, by pretending perpetual calls and occupation — assuming the peculiarities of particular religious communities, with a view to attract their attention and patronage — and, finally, perverting even the sacred relation of matrimony, by a connection suggested only by prudential considerations, or to secure the services of a good gossip and effectual colleague in the respectable art of '*patient-getting*.'

This is a plain, but very imperfect catalogue of the abuses which we not unfrequently observe in the practice of some members of our own association,—and as zealous friends, and humble champions of the honor of our profession, we feel bound to denounce them as alike despicable and mischievous, and to call upon all who are with us in these sentiments, to expose and discountenance their unworthy perpetrators.

The above remarks were suggested by a gross specimen of medical self-glorification, which was related to us a few days since, by a friend who received it from one of the favored auditors of the engaging monologue, and was careful to preserve, as far as possible, even the phraseology of the modest speaker.

He was visiting, in a highly respectable family, a patient who had fractured a limb, a few days before. In the alarm always occasioned by such accidents the friends, after sending for him as their usual physician, had called in another gentleman who happened to live near them. Although the patient was placed on his hands the moment he arrived, it seems that the presence of the stranger had awakened a paltry jealousy, which vented itself first in sly insinuations against his proceedings, which indeed were only preparatory, and finally spent itself as follows: Addressing himself to the friends of the patient, several of whom were present, he says; 'always send for me when any of you have any bones broken or out of joint; and wait till I come; for I am considered remarkably good in bone cases. Indeed, there is but one doctor in the city (naming a distinguished surgeon,) that is my equal in that line, and he gives up to me in all but hip cases. When he is called to a shoulder case, for instance, he wont touch it; but always says, send for Dr — (naming his modest self), and when I am called to a hip case, I commonly send for him, for I do suppose he is a little the best in such cases, but in all others I suppose there is not much difference between us.'

After relating some wonderful cases illustrative of his skill in bone cases, the Doctor took his leave.

Now this same modest disciple of Hippocrates, was not Dr

Sweet, nor his successor Dr Hewit, the professed bone-setter, nor Dr Thompson, or his advocate Dr Waterhouse, nor yet the husband of the 'gifted Lady,' in either of whom such talk would be very becoming; but a member of the Boston Medical Association, and of the Mass. Medical Society, to neither of which institutions has he ever contributed anything, but the example of an illiterate, vulgar, bragging and empyrical 'patient *getter*,' insensible to the claims of his profession as a liberal art, and regardless of even the decencies which pertain to a gentleman. A stranger to science himself, and a contemner of it in others, he has blundered through a long course of practice, obtained by various arts and pretensions, which a certain species of sagacity, but a step above mere cunning, has enabled him to ply with extraordinary success. We withhold his name, not out of any regard to his feelings or his age — the former are insensible to such exposures as would distress a gentleman, and the latter is unaccompanied with that righteousness, which under the scripture rule should entitle it to immunity; but because we do not choose to expose ourselves to the possible trouble of making good what we have said in a court of law.

We commend these few remarks to the particular notice of him whose transgression has called them out, and of others, if there be any, who feel their application, and beg him especially to reflect, that although he may be insensible to considerations of professional honor himself, the obligations of a parent should prompt him to assume some virtue in this respect, if he have it not; for in no case are the transgressions of the parent visited on the son with more certainty and severity, than where they affect the honor and interests of a community to which they both successively connect themselves.

ART. VII. — MEDICAL PUBLICATIONS SENT TO THE MAGAZINE.

The Cyclopedia of Practical Medicine and Surgery. Part I. Edited by ISAAC HAYS, M. D.

WE have looked through the FIRST PART of this work, and are well pleased with its contents. The articles are generally prepared with discrimination, and manifest a prevailing regard for practical utility, and will do credit to the research and learning of the contributors. Although wanting the royal dimensions and finished execution of its trans-Atlantic cotemporary, the character of the present number, and the reputation of the contributors who are engaged, authorize the belief that it will be quite as valuable a work to the American student or practitioner. Comparisons are proverbially odious, and we should not have instituted one in the present case, were it not for the recollection of the ill-natured sneer with which Dr Hays's prospectus was noticed by the editor of the London Lancet. Mr Wakley was mistaken in supposing that the American Cyclopædia was to be a reprint of the English; but if it were so, there was neither good sense nor good manners in his flippant denial of the possibility of its being an 'improved' or 'amended' edition. The London work is a noble one, both in design and execution; but good as it is on the whole, there are some articles intolerably heavy and prolix. Jonathan might improve these by making them shorter, if in no other particular.

'Well done Jonathan!' as if he would ask, in the spirit of that overweening nationality, which often renders his less enlightened countrymen peculiarly disagreeable, 'can any good thing come out of Nazareth?' Opening to the article *Abdomen*, in brother Hays's book, we may confidently answer — 'come and see.'

ON THE TREATMENT OF INFANTS. — BY A LADY.

This is a tract which is published as a number of the 'Workingmen's Library;' and the author vindicates the propriety of its destination, by some very sensible remarks on the necessity of health and perfect corporeal development, to that class of persons to whom her work is presented, and on the degree to which these are influenced by the kind of management to which children are subjected during the first years of existence. Her precepts are chiefly prophylactic, and are founded in sound physiology, and are confirmed by experience. To say that it is an infinitely more valuable book than three quarters of the 'Mother's Medical Guides,' 'Nursery Physicians,' &c, &c, some of which have been published by members of the Royal College of Surgeons, is giving to this modest little Essay, far less praise than it deserves.

COLLECTANEA.

ICHTHYOSIS. — BAYONET WOUNDS.

As elsewhere, — the prevailing epidemic has afforded food for debate at this Society. The detail of opinions will not occupy much space; but we have a slight arrear of report to bring up previously.

Two evenings since, the man with the extraordinary skin once before mentioned, exhibited himself to the members. The occasion was 'improved' as the Americans say, by Mr Pettigrew. The entire surface of the man's body is covered by a warty elongation (when in its most natural state) of the papillæ of the skin. On the back of the hands the eruption forms a thickly-set brush of horn. On parts much exposed to friction, the points are worn down to the form of scales. The great-grandfather of this man was found by a whaler in Davis's Straits, in a wild state, similarly covered. He was taken on board, and christened in the captain's name, Lambert. He was ultimately brought to England, where he begat a son, coated in the same manner, who again begat his like, and so the generation went on to the fourth — numerous births of scaly male children occurring, the females being born with proper human skins. Where the propagation of men brought into the world thus cased, is to end, who shall tell? The biped armadilloes find no difficulty in wiving. Nay, the present Mr Lambert says, with regard to his skin, that his good lady 'rather likes it of the two.' *De gustibus, &c.* An account of his grandfather was published in the *Philosophical Transactions* some years since. The present man moults once a year.

What Mr Pettigrew said about him we have forgotten. At the conclusion thereof the subject of gun-shot wounds was broached by some member, when a curious statement was made by Dr Gilkrest relative to bayonets. He observed that, although he had attended an immense number of wounded men on the Peninsula as an army surgeon — having been at more battles than the Duke of Wellington — he had never once seen a bayonet wound. The fact bears out a statement made some time ago by an officer who had seen much service, that charges with the bayonet never ended in actual collision between the opposing lines, — one party or the other *invariably* yielding before the weapons could be crossed, — those men who were possessed of the firmer temperament succeeding in terrifying the enemy, unscathed, from their position. The living waves approached, but *never* met. Dr Johnson spoke of this fact as an unsuspected, but a very certain one. We have before heard it amply testified by private evidence.

The chief subject of debate was the folly and danger of groping for balls where their presence occasions no inconvenience. It is a doctrine already amply enforced by all practical writers. Some additional instances were cited by Mr Arnot and Mr King. Dr Gilkrest, excited some interest by relating a case where a ramrod was fired into a soldier's abdomen, passed through, and lodged its extremity in the spinal column, without the slightest evidence of any wound of the intestinal tube, or any organ, occurring, or being discovered when the man's interior was minutely examined some time afterwards on occasion of his death by drowning.

Exostosis of the Great Toe.

This disease has not been described by authors as far as I am aware. It consists of a pyramidal exostosis, and often occasions mistakes which lead to painful and useless operations. In its commencement it is but little dangerous, though very inconvenient; it is not painful, but becomes so as the nail is lifted up by the subjacent tumor. But a shock of the foot, for example of the toe against the pavement, renders the pain intensely distressing. The causes of the affection are unknown in the majority of cases. It occurs in individuals who have received no injury or hurt of the toe, and who have not worn too tight shoes or boots. Nevertheless, it is sometimes seen in persons who have suffered some violence in the part affected. The venereal virus or scrofulous diathesis does not seem to determine its peculiarity. Generally the patients mistake the tumor for a wart, and this error has often been shared by the practitioner, who, influenced by this idea, resorts to cauterization, which in this case always produces bad effects. In other cases the affection is supposed to be one of the nail, and the nail has accordingly been often extirpated.

On dissecting the tumor, when fully developed, we find it formed by the skin, by fibrous tissue, and by a pyramidal bony excrescence springing from the upper surface of the terminal phalanx. This exostosis is composod of spongy tissue covered by a layer of compact tissue of variable thickness. Sometimes its texture is not very hard, and can be cut through with a bistoury; sometimes, however, it is very hard, and requires the gouge and mallet for its extirpation. If allowed to increase continually, ulcerations more or less malignant may occur, and render walking still more difficult and painful. I have once, I remember, seen a surgeon remove the last phalanx of the great toe, for an ulcer determined by a tumor of this kind. The only mode of ridding the patient of the inconveniences to which this affection gives origin, is by the complete extirpation of the excrescence. The removal of the nail is sometimes necessary. In the vast number of cases it is, however, quite useless. It is only necessary to add, that we must not be satisfied with the removal of the summit of the tumor. It must be completely extirpated ; if not, it will grow again. I have had occasion, I believe, to remove thirty of these tumors, and I have, by the operation mentioned, invariably been successful in the cure of the patients.

Dupuytren.

DELIRIUM TREMENS IN YOUNG LADIES.

Dr James Johnson, at a late meeting of the Westminster Medical Society, referring to the causes of Delirium Tremens, stated that he had lately seen four or five cases of the most exquisitely marked delirium tremens in young persons, all of them females under 20 years of age, who had not been guilty of the slightest degree of intemperance. Sleeplessness, (one of them had not slept for eight nights,) spectral illusions, ferretty eyes, cold clammy skin, and constant jactitation, were amongst the symptoms. The patients were ladies residing at a country boarding-school, and became the subjects of the disease, which he had never seen more complete in any drunkard, from moral causes. In three of the cases the ladies had remained at school during the holiday recess, a long way from home and from their parents, for the purpose of devoting that portion of time to study, in order to remedy the defects of a neglected education. They had labored most assiduously, and the delirium burst out immediately after the return of the other scholars at the commencement of the new session. One of the young ladies, he learned, had been ' irregular,' three days before the disease set in. On visiting the cases, he first attempted to produce relief by opium, but that only aggravated the disease. Cold to the head, soothing treatment, and moderate nourishment were then adopted, and with success. Drunkenness, however, was the common cause of the disease, and in most cases opium did harm, if used before the secretions were put it order. Then it was all in all. He had examined many bodies without once discovering unequivocal proof in the brain that inflammation was the cause of the disease.

VACCINE ESTABLISHMENT OF GREAT BRITAIN.

The National Vaccine Establishment of Great Britain is at present composed of a Managing Board, consisting of the President and senior Censor of the Royal College of Physicians, and the President of the Royal College of Surgeons, a Treasurer, Registrar and Inspector of Vaccinators, and twelve Stationary Vaccinators, a Secretary and Messenger. The following are the names, residences, and salaries of the present members of the Board.

	Per annum.
Sir H. Halford, Bart, Pres. Roy. Coll. Phy. . .	£100
J. P. Vincent, Esq. Pres. Roy. Coll. Surg. Lincolns-Inn-Fields	100
Dr Thomas Hume, Censor, South-st, Grosvenor-sq. (by virtue of his office as senior Censor for the year)	100
Dr Robert Williams, Censor, Bedford-place, Russell-square. (This appointment is ordered to be discontinued after September, 1832.)	100
Dr Clement Hue, Registrar, Guildford-st. Russell-sq.	200
Making salaries, per annum, of	£600

The Board so constituted meet for the purposes of business once per week or fortnight, according to the urgency of business; and it forms the especial duty of the Registrar to attend to the correspondence, foreign and domestic, to submit such to the Board, and to keep a faithful register of the transactions of the establishment.

The executive part of the establishment consists of an inspector and twelve stationary vaccinators.

J. T. Simpson, Esq. Inspector, resident at the central station, No. 8 Russell-place, Fitzory-square. His duty consists in visiting the several stations, receiving and distributing lymph to all applicants at home and abroad, and investigating all anomalous cases, as pointed out to him by the Board, or reported by vaccinators	£200
J. C. Carpue, Esq. Dean-st.: vaccinates from ten to eleven o'clock daily at the central station .	150
F. Agar, Esq. High-st. White-chapel . . .	50
C. R. Aikin, Esq. Baker's-buildings, Liverpool-st. .	100
J. Barnett, Esq. Charter-house square . . .	50
J. A. Gillham, Esq. Surrey Chapel Blackfriers-road	150
J. Harkness, Esq. Broad-street, Ratcliffe . .	50

Edw. Leese, Esq. Baker-street	100
W. J. Lewis, Esq. Spital-square	50
R. Robertson, Esq. Jermyn-street	50
R. Semple, Esq. Rufford's-row	50
H. Sterry, Esq. Allscot-place, Bermondsey	50
B. Ward, Esq. Wellclose-square	50
Dr Thomas Turner, Cuvzon-street, Treasurer	25
Charles Murray, Esq. Chauncery-lane, Secretary	50
John Hutton, Messinger,	52
Making salaries, per annum, of	£1,227

The Board, as already stated, consists of the Pres. of the R. C. of Phys. the Pres. of the R. C. of Surgs., and the senior Censor of the R. C. of Phys. for the time being. Their appointments may be considered as annual, as depending upon the offices which they hold respectively at their several Colleges. The more permanent and subordinate officers of the establishment were regulated and chosen by the Board. — *Lancet.*

HOT LEG-BATHS.

The effect of hot water to the lower extremities on the general circulation, was strikingly exemplified in the case of an old gentleman subject to attacks of violent palpitation, with a feeling of approaching dissolution. I found him one day in one of those paroxysms. It had lasted many hours, and a fatal termination was expected, as the usual remedies had been tried in vain. By the use of a pediluvium as hot as he could bear it, the affection ceased in a few minutes, and he took some nourishment, slept, and arose quite recovered. — *Dr Graves. Dub. Jour.*

POISONOUS CONFECTIONARY.

The first paper in the eighteenth number of the *Annales d' Hygeiene*, contains proof of the danger of permitting the sale of articles of sugar confectionary colored by poisonous pigments. This subject had long attracted the attention of the medical profession in France, and through their exertions active measures were taken by the police to put a stop to the pernicious practice. About two years since, the existence in England of the same danger, and that to an enormous extent, was signalized in a memoir by Dr O'Shaughnessy, which we published in our 402d Number. In that paper the Doctor showed, by a multitude of specimens taken from the establishments of the chief wholesale and retail venders of London, that at least one half of the colored sugar confectionary sold in this city, was tinted by mineral and vegetable poisons, viz. the reds by the sulphuret of mercury and red led ; the yellows by the oxide of lead; massicot, chromate of lead, Naples yellow (which contains antimony), and gamboge; the green by copper, the arsenite of copper, Scheele's green, Schweinfust green, &c. Parents, indeed, are but little aware of the fact, that the illnesses which they so often notice in their children after eating these articles of confectionary, frequently depend on the action of a mineral or a vegetable poison, and not on the indigestion to which it is vaguely attributed.

The case now published in the 'Annales d'Hygeiene,' will, we trust, have its good effects, and lead some influential 'parent' to entreat the municipal authorities to suppress the sale of the showy but poisoned baits, which are exhibited in every confectioner's shop in London. Let our magistrates listen to the following : — A servant having made some improper proposals to a child, and fearing he would tell his parents, gave him a quantity of comfits to ensure his silence. The poor child ate the comfits, was soon afterwards seized with pain and violent vomiting, and died in a few hours. The analysis of the vomited matters, and contents of the stomach and small intestines, was performed by two distinguished chemists—MM. Devergie and Baruel—and *copper* found in considerable quantities. It is deserving of special attention, too, that the *quantity* of copper found in the small intestines was much smaller than that in the stomach.' This, we repeat, is remarkable, as a strong proof that the presence of the metal was independent of its normal existence in the tissues of these organs, or in the articles of food recently consumed. The researches of M. Sazeau in France, and of Dr O'Shaughnessy in England, have now placed beyond a doubt the presence of infinitesimally minute quantities of copper in the majority of animal and vegetable structures. Hence in our analysis in suspicious cases, we must always note the precise quantity of the metal found separately in each organ, and if the quantity be only infinitesimally small, no positive inference of poisoning can be made with safety. The rules to be followed in the analysis, and in the mode of ascertaining the precise quantity of the poison detected, have been described minutely in the paper of Dr O'Shaughnessy, already referred to. — *Lancet.*

HARE-LIP.

Period for performing the Operation.

THE operation for hare-lip, though very simple in the majority of cases, nevertheless presents two capital points, which are still undecided in its history. I allude to the period at which the operation should be performed, and the treatment applicable to a certain complication of the disease, which has not hitherto been observed with sufficient accuracy.

Respecting the first of these questions, the most different opinions have been advanced. Many practitioners think we should wait until the children become sensible of their deformity. They found this notion on the greater thickness of the lips at this period, and the necessity of a firmness in their tissue, in order to support the suture. Some surgeons believe it better to wait until the third year, except in the cases where suckling is impeded or prevented by the malformation. At this age they say that the tissues are more solid, and can better support the needles, at the same time that their extensibility is as great as in early infancy. It is presumed, too, that children three years old will be more rational than mere babies, and submit with more facility to the precautions essential to success.

On the contrary, however, others have believed that we may operate on new born infants, both on account of the greater vascularity of the lips, and the consequently rapid healing of the wound, and from the infant's not having acquired the habit of performing movements of suction.

With respect to these ideas, I may observe, that it is by no means safe to operate at the moment of birth; the flesh is too soft, too readily divided by the needles; moreover, the general mortality, independently of special causes, being greater among new born infants than at any other period of life, it would be imprudent to augment the chances of death already hanging over the new born infant, by the addition of the chances of death in consequence of this operation. It would doubtless be of consequence to operate very early, in order to impart to the infant the faculty of suction. But this habit of suction is one of the causes which most completely oppose the success of the case. Could this inconvenience be avoided, the operation at birth would have a powerful argument in its favor; but the infant sucks by instinct, even before ever applied to the breast. The obstacle is thus as powerful at first, as it is later in the case. As for operating at four or five years, in the expectation of finding more docility and courage in the patient, experience is enough to undeceive those who assign such motives for their practice. Children from four to five, have just enough of reason to foresee, perceive, and recollect pain, but they are not rational enough to endeavor to support it; they make every exertion to escape it, and do their utmost, in short, to frustrate the operation. Sometimes, though very rarely, we meet with a certain degree of docility in little girls, who are supported by their natural coquettishness, and whose vanity is readily excited. Boys, being insensible to this motive, are completely intractable. I think, then, that every circumstance renders the early operation preferable—say at three months. Life is then more certain; the infant perceives pain it is true, but forgets it the instant it is past, and does nothing designedly to interfere with the treatment. I have practised the operation at this age for a great length of time, and have always found it successful, the reunion of the parts occurring with wonderful rapidity. — *Dupuytren.*

ARREST OF PAIN BY A MAGNET.

Some experiments which seem to promise results of considerable interest and practical importance in medicine, are at present being pursued in certain of the metropolitan hospitals, on patients afflicted with neuralgia, tic douloureux, tooth-ach, and other immediate affections of the nerves. We allude to the application of a *magnet* to the parts suffering pain from those diseases. We abstain from communicating to our readers at present anything more on the subject than we have had satisfactory means of ascertaining to be rigidly exact on the score of truth. Three instances only have, in fact, as yet occurred under circumstances which enable us to speak without hesitation of the power possessed by the instrument alluded to, over diseases of the human frame. These we shall give, observing, that the employment of the magnet has nothing to do with the art denominated 'animal magnetism.'

Our readers will remember the interesting case of neuralgia of the finger at St Thomas's Hospital, upon which Dr Elliotson stated in a clinical lecture, reported in a former No., that he had exhausted his store of remedial agents, without developing a shade of improvement. A more severe case, probably, was never subjected to treatment. The man left the hospital for a time, totally unrelieved, but soon afterwards returned, when in accordance with a suggestion, as Dr Elliotson has since observed in one of his clinical lectures, of a correspondent of this Journal, the *colchicum autumnale* was tried in the case, without, however, the slightest benefit being derived therefrom. The sedative powers of the *lobelia inflata* then suggested to the Doctor the propriety of given the patient the chance of that medicine. The grounds on which it was employed, proved to be in a great measure correctly founded. The man took the lobelia, in increasing doses, every hour, beginning with seven drops of the tincture, and adding a drop to each progressive dose, until as large a quantity had been reached as could be taken without deranging the functions of the stomach. Great amelioration of the affection followed this treatment. The patient, who was before unable even to cross the ward, or bear the slightest cutting of his finger nails, and had become emaciated to the extremest degree, from pain and sleeplessness, was soon enabled to walk out of doors, and enjoy many hours of rest, recovered his good looks, and became comparatively cheerful.

The relief, however, was very far from being either perfect or permanent. The continued exhibition of the medicine was demanded to secure any portion of rest.

A short time since, however, a new remedial agent presented itself, in the form of the magnet. The hospital was visited by (we believe) Dr Kyle first, and subsequently by a physician of the name of Blundell, a friend of the former gentleman, who followed up the application begun by Dr Kyle. The lobelia inflata was allowed by Dr Elliotson to be suspended, and the effect of the magnet tried. That effect was, we learn, a very decided one; the pain was, on every application of the instrument, removed, and continued absent for several hours. The distance however at which the operator resided from the hospital prevented, and still prevents, the daily use of the instrument, or, the impression on the patient's mind is, that it would perform a cure.

On Tuesday last, the Dr Blundell already mentioned re-attended the hospital, at the hour of Dr Elliotson's visit, when, in the presence of the pupils and our reporter, he drew forth the magnet, and commenced its application to the patient's finger.

The instrument is of the horse-shoe form, about ten inches in its long axis, and five in its short, composed of five layers of metal, the central being the longest, and the whole bound with stout riband. The patient was at the time apparently suffering considerable pain, and unable to use his hand. The *north* pole of the magnet was gently passed five or six times down the sides and back of the middle finger, and then rested on the central joint. The result was, such a cessation of suffering, that he could gnash his fingers into the palm of his hand with ease and comfort, and he declared himself to be entirely relieved. The power of the instrument, however, did not cease here. Dr Blundell showed that it possessed the means of reproducing the pain in the most intense form. The *south* pole of the magnet was directed along the finger. At the third pass the patient began to bite his lip, and close his eyes with an expression of pain. At a few passes more his chin was involuntarily buried in his breast, and his wrinkled features evinced the acutest suffering. This was allowed to continue for a few seconds, when the *north* pole was again presented to the finger, and the agony speedily subsided. The spectators then left the man with a countenance perfectly tranquil.

At the extremity of the ward lay an elderly lady, a martyr to *tic-douloureux* in the lower jaw, extending to the ear, and affecting a large portion of the head. The disease, she stated, was of more than nine years' duration, and had never ceased to afflict her for a day during that period up to her entrance into the hospital. Her appearance was proportionably miserable. The magnet had also been applied in her case, and with similar advantage, as she stated. On the present occasion, it was found on approaching her bed, that she was that morning free from pain, and the aid of the magnet was not needed. 'But cannot you show its power by producing the pain ?' inquired a by-stander. The suggestion was acted on. The *south* pole of the magnet was passed from the centre of the chin along the lower jaw-bone up to the ear. At the third pass the poor woman indicated that the *tic* was commencing, and in a few seconds more the affection was experienced intensely. The process was then stopped, as the experiment was carried far enough to satisfy all present of its consummation, and after a brief space the presentation of the *north* pole wholly freed the sufferer from pain. The operator subsequently stated that by continuing the passes he could have carried the pain on to the production of delirium.

There is a female patient in another ward who had suffered intense tooth-ach for three months, when a fortnight since, according to her own evidence, which we have no reason to doubt, it was instantly cured by one application of the magnet, through the medium of a key, and had not returned in the slightest degree up to the period of the visit on Tuesday last.

These are very interesting facts. We present them to our readers unaccompanied by comment. The specific name given to his instrument by Dr Blundell, is that of 'mineral magnet.' How far its application to disease admits of extension, we are at present ignorant. — *London Lancet.*

ANIMAL MAGNETISM.

This mysterious subject has lately been investigated for the second time by a committee of the French Academy, and their report, translated by J. C. Calqhoun Esq. of Edinburgh, who has added an introduction, and appendix, and thus made an octavo volume of 252 pages, which is a complete treatise on the whole subject, and deserving of general attention. The London Lancet contains an analysis of it which appears to be a very faithful one. We avail ourselves of this to give our readers the conclusions and some of the observations and experimental processes of the Committee.

'There are various simple operations in almost constant practice among mankind, and performed, as it were, instinctively, which, from their very frequency and apparent insignificance, engage scarcely any part of our attention, and consequently, give rise to no reflection. We find, indeed, a number of floating opinions relative to the nature and efficacy of some of these seemingly trifling operations, which have been transmitted from age to age, until they have been permitted to settle down and mingle with the elements of popular belief; but men of education have generally agreed to regard all such practices and opinions with indifference and contempt. It is quite possible, however, that these opinions and practices may be the rude relics of some branches of knowledge, which have been almost entirely obliterated from the records of human acquirement, leaving but a few traces behind, in popular superstition.

'In all ages, a certain medicinal virtue has been ascribed to the touch of the human hand, to the placing of it on a sick person, or rubbing with it any part of the body which may have been injured. Yet scarcely any attempt is now made to assign a cause for the soothing influence. Natural instinct prompts a patient to apply his hand to any part of his body in which he feels pain or has received a blow. In the same manner in head-ach, a colic, &c., we seek relief from the application of the hand to the region of pain, or from the same operation performed by another. * * * This process, indeed, appears to be sometimes adopted, also, as a general corroborant and preservative of health. In some parts of Bavaria the peasants regularly rub their children from head to foot before putting them to bed. The mode of taking the bath with friction and pressure, produces a refreshing and highly agreeable feeling, and cures or alleviates many diseases. In investigating the customs of different countries, we sometimes stumble on practices still more analoous to the magnetic processes. The author of the *Philosophie Corpusculaire* informs us that a family exists in the mountains of Dauphiné, that has been in the habit of magnetising, from father to son, for centuries, by conducting the great toe along the principal ramifications of the nerves. Kieser mentions that a similar mode of treatment has long prevailed in many parts of Germany for the cure of rheumatic and other complaints. We have probably all heard of the virtue ascribed to the great-toe of King Pyrrhus.'

At page 46 our author gives an account of Frederick Mesmer, who was a native of Switzerland, and was born in 1734. Having obtained his diploma of Doctor of Medicine, he wrote, in 1766, and publicly defended, a dissertation on the influence of the planets on the human body. At first he attributed this influence to a principle in electricity, but at length satisfied himself of the futility of that theory.

'After a variety of fruitless efforts, he at length, in the month of November, 1773, resorted to the magnet, to which his attention had been particularly called by the jesuit Maxmillian Hel, Professor of Astronomy at Vienna.'

'He operated not only by the actual touch of his hands, or by means of an iron rod, extended to some distance from his body, but, by means of cords, he placed his patients in connexion with magnetized trees, or conducted the invisible magnetic fluid, out of covered vessels to the patients, who sat round in a circle, and by this treatment he was enabled to throw them into very peculiar states, which could not be properly called sleeping or waking, but presented the phenomena of both. It sometimes happened, however, that neither of these arrangements was found necessary; for a single look from Mesmer was frequently sufficient to produce the same effects.

'In order, it is supposed, to increase the efficacy of his treatment, the chamber in which he performed his operations and cures, was darkened to a sort of twilight. Mirrors were placed around it, and a mysterious silence prevailed, interrupted by the tones of the Armonica, an instrument upon which Mesmer himself performed with great skill; or by those of the harpsichord.'

Under such circumstances, it is impossible that Mesmer's practice could be regarded by intelligent people other than as a species of fraudulent humbug, and no cures that he could perform, no miracles that he could achieve, under such circumstances, would have gained him even an ephemeral reputation among an enlightened community. Animal magnetism, however, at last produced such a sensation in France, 'that a royal mandate was issued on the 12th of March, 1784, to the medical faculty, requiring them to appoint commissioners to investigate the matter.' In consequence of this ordonnance, two commissions were appointed, 'one consisting of the members of the Academy of Sciences, the other composed of members of the Society of Physicians.' The reports of both commissions were unequivocally unfavorable to the claims of animal magnetism. Jussieu, however, one of the commissioners, declined his acquiescence to this decision, and subsequently sent forth a production of his own, particularly favorable to the claims of Mesmer and his disciples. Nevertheless, from 1784, animal magnetism has been regarded as mere fudge by the best practitioners of England, and more or less scouted by the most reputable physicians on the continent. But in 1826, after a discussion in the Royal Academy of Paris, founded on the proposals of M. Foissac, a new commission was appointed, consisting of M. M. Bourdois, Double, Itard, Gueneau, de Hussy, Guersent, Fouquier, Laennec, Leroux, Magendie, Marc, and Thillaye. From the report of these commissioners we shall presently offer very copious extracts, but comment upon them we shall not, as the facts therein disclosed completely set at defiance the conclusions arising from the results of all our past experience. Our senses, on perusing them, seemed mocked, and the judgment completely set at nought. The commissioners who acted on this occasion, are men of known respectability and veracity. Who therefore, on the one hand, shall dispute their statements of facts; and who, on the other, admitting that they are true, can attempt to offer a scientific or physiological explanation of such extraordinary, such apparently incomprehensible, phenomena? Before entering on these extracts, however, let us quote Mr Colquhoun's account of the mode of operating, — probably as he would pursue it.

'The magnetic treatment is either simple or compound. In the former case, the magnetizer operates solely by himself. In the latter, he makes use of certain external media. The simple magnetic treatment is usually administered with the hand, and is thence called *manipulation*. But the magnetizer can also operate without employing the hand — by breathing or by fixing the eyes or the thoughts steadily and intensely upon the patient. When the magnetic connexion has been previously established, a single fixed look of the magnetizer, accompanied with energetic volition, has frequently been found sufficient to throw the patient into the state of magnetic sleep, or somnambulism.'

'The magnetic treatment by *manipulation* comprehends several modes of touching and stroking with the hand, which could not be described here particularly, without leading us into prolixity. The usual method is to stroke repeatedly with the palms of the hands and the fingers in one direction, downwards, from the head to the feet, and, in returning, to throw the hands round in a semicircle, turning the palms outwards, in order not to disturb the effects of the direct stroke. To magnetise in the contrary direction — that is, from the feet upwards towards the head — not only counteracts the effects of the former method, but frequently operates of itself, prejudicially, especially in the case of irritable subjects. If we attempt to operate with the back of the hand, no effect whatever will probably be produced upon the patient. If, in the course of this process, the hands or fingers of the operator are made actually to touch the body of the patient, it is called *manipulation with contact*. If, on the contrary, the operation is conducted at some distance, it is called *manipulation in distans*.

'The *manipulation with contact* is of two kinds. It is accompanied either with considerable pressure, or with light touching, manipulation with *strong* or with *light* contact. The manipulation with strong contact is certainly the most ancient, and the most universally prevalent mode of operating, and traces of it are to be found in almost all ages and countries. In manipulating with light contact, the hand, indeed, is conducted very lightly along the body of the patient; but the magnetizer must perform this operation with the utmost energy, and always have the desire of applying strong pressure to the body of the patient.

'The *manipulation in distans*, is applied at a distance of from generally two to six inches from the patient's body. In the case of very susceptible persons, it is performed at a still greater distance. The effects of this mode of manipulating are less intense than those produced by actual contact, and, besides, it requires a greater energy of volition on the part of the magnetizer. It is, however, frequently employed in magnetizing very irritable patients, who cannot endure any stronger method.

'It would be tedious to enumerate and describe all the various kinds of manipulation detailed in elementary works on this subject. They may all of them, however, be combined, according to the skill and judgment of the magnetizer, who will vary his modes according to the effects produced, and the degree of sensibility evinced by the patient. I must not, however, pass unnoticed the method of administering animal magnetism, adopted and recommended by Professor Kluge, in his work.

'Before commencing the magnetic manipulations, it is necessary that both the magnetizer and the patient should be conveniently placed, in order that the former may be enabled to perform his operations, and the latter prepared for the expected crisis of sleep. A semi-recumbent posture of the patient, is, upon the whole, the most convenient, the body being, at the same time, so far bent, that the operator can reach, without difficulty, from the crown of the head to the toes. Should the patient be unable to leave his bed, we must endeavor to place him in a proper bended position, by means of pillows. It is not necessary that the patient should be completely undressed, only no silk covering should be allowed to intervene. The best situation, perhaps, in which a magnetic patient can be placed, is in an easy arm-chair, with his hands resting on the arms, his feet upon a foot-stool, and his knees bent somewhat forward. The magnetiser then places himself upon a common chair, opposite to the patient, and so near as to be able to enclose his knees within his own, but without designedly touching them. The magnetiser then proceeds to the manipulations, which are distinguished into the *preparatory* and *effective*. The preparatory manipulations are then performed in the following manner.

The operator lays hold of the shoulders of the patient, with both his hands, in such a manner that the balls of his thumbs are placed in the arm-pits, and the other fingers rest upon the shoulders. In this position he continues for a few seconds, excites in himself the intention of pressing the shoulders together, and then laying hold of the upper part of the arms, glides down to the elbow, tarries there a little, and then proceeds down to the hands, where he applies the points of his thumbs to those of his patient, and allows the remaining fingers to rest upon the back of the patient's hands. He then returns by means of the dorsal manipulation (i. e. the hands being thrown round in a semicircle, in the manner already described) to the shoulders, and repeats the same operation two or three times, after which he commences the effective manipulations, of which a general description has already been given.'

'Nevertheless, Gentlemen,' say the committee, 'do not believe that in any circumstances we entrusted to others than our own members the task of directing the experiments which we witnessed, or that any other than the reporter held the pen, at any instant, for the purpose of compiling the minutes of the procedure, and of noting the exact succession of phenomena which presented themselves. The committee proceeded with the most scrupulous exactness. We always ourselves directed the modes of experimenting, the plan of inquiry, and the course to pursue. We have always been present, and always impressed our own direction on everything that has been done. We felt that the solution of the question before us was so delicate, that we should trust none but ourselves, and that you could trust only to our guarantee. From this rigorous exclusion, however, we have thought proper to except a very curious phenomenon observed by M. Cloquet, which we have admitted, because it was already the property of the Academy, the section of surgery having previously investigated it. * * * We always entertained the greatest distrust of wonders to come, and this feeling constantly predominated during all our researches. * * * What we have seen in the course of our experiments, bears no sort of resemblance to what the report of 1784 relates with regard to the magnetizers of that period. We neither admit nor reject the existence of *a fluid*, because we have not verified the fact; we do not speak of the *chain of* hands, of *application* to the hypochondriac region and stomach, of accompanying *music*, nor of large assemblages magnetized altogether; because all our experiments were made in complete stillness and rigorous silence, without any accessory means, never by immediate contact, and always upon a single person at a time. We sought to be inquisitive, mistrustful, and exact.'

'The person to be magnetized was placed in a sitting posture, either in a convenient elbow-chair, or on a couch, or sometimes in a common chair. The magnetizer, seated on a chair a little more elevated, opposite, and at about a foot from the patient, seemed to collect himself for some moments; during which he took the thumbs of the patient between his own fingers, so that the interior parts of the thumbs were in contact with each other. He fixed his eyes on the patient, and remained in the position until he felt that an equal degree of heat was established between the thumbs of the magnetiser and the magnetised. He then withdrew his hands, turning them outward, placed them on the shoulder, where he allowed them to remain about a minute, and conducted them slowly, by a sort of very slight friction, along the arms to the extremity of the fingers. This operation he performed five or six times, which the magnetisers call a pass. He then placed his hands above the head, held them there a moment, drew them downwards in front of the face, at the distance of one or two inches, to the pit of the stomach, resting his fingers upon that part of the body, and then descended slowly along the body to the feet. These *passes* were repeated during the greater part of the sitting, and when he wished to terminate it, he prolonged them beyond the extremity of the hands and feet, shaking his fingers each time. Finally, he made transverse passes before the face and breast, at the distance of from three to four inches, presenting his two hands approximating to each other, and separating them abruptly. At other times he approximated the fingers of each hand, and presented them at the distance of three or four inches from the head or the stomach, leaving them in this position during one or two minutes. Then withdrawing and approximating them alternately with more or less rapidity, he imitated the movement which is performed when we wish to shake off a liquid which has moistened the extremity of our fingers.'

In enumerating the facts observed, the committee classify them under the following heads; —

'I. Magnetism has no effect upon persons in a state of sound health, nor upon *some* diseased persons.

'II. In others, its effects are slight.

'III. These effects are sometimes produced by *ennui*, by monotony, by the imagination.

'IV. We have seen them developed independently of these last causes, most probably as the effect of magnetism alone.'

In the cases ranged under this division, the committee declare that it would have been difficult for them not to admit magnetism as the cause of the phenomena. We extract three cases *seriatim*.

Case 1. — 'A child, ætat. two years and four months, subject, like its father, of whom we shall speak in the sequel, to attacks of epilepsy, was magnetised by M. Foissac, October 26, 1827. Almost immediately after the commencement of the treatment, the child rubbed its eyes, bent its head on one side, yawned, appeared agitated, scratched its head and ears, contended against sleep, and soon grumbled. It desired to make water, after which it appeared very sprightly. We magnetised it again, but produced no symptom of drowsiness, and terminated the experiment.

Case 2.—'There occurred to us a similar case of a deaf and dumb lad, ætat. 18, long subject to very frequent attaks of epilepsy, whom M. Itard wished to be magnetised. He was accordingly magnetised fifteen times. The epileptic attacks were entirely suspended during the sittings, and did not return until eight months afterwards, — a circumstance unprecedented in the history of his disease. During the treatment he had heaviness of the eyelids, a general numbness, a desire to sleep, and sometimes vertigo.

Case 3. — 'A still more decided effect was observed in M. Itard, a member of the committee, on a second trial, on Oct. 27, 1827, when he was magnetised by M. Dupotet. He then experienced a heaviness without sleep, a decided sensation of a peculiar nature, a setting on edge *(agacement)* in the nerves of the face, convulsive motions in the nostrils and muscles of the face and jaws, and a flow of saliva of a metallic taste, analogous to that of galvanism. The two first sittings produced headach, which lasted several hours, and at the same time his habitual pains (chronic rheumatism, of nine years standing, in the stomach) were considerably diminished. A year after this, M. Itard, who had pains in the head, was magnetised eighteen times by M. Foissac. The treatment almost constantly produced a flow of saliva, twice with a metallic flavor. We observed little motion and muscular contraction, excepting some twitchings of the tendons of the fore-arm and legs. He told us that his headach ceased each time after a treatment of from twelve to fifteen minutes, and that it entirely disappeared by the ninth sitting, when it was recalled by an interruption of the magnetic operation for three days, and was again dispersed by the same means. He experienced during the treatment a sensation of general health, an agreeable disposition to sleep and somnolency,* with vague and pleasant reveries. His complaint underwent, as before, a sensible amelioration, which, however, was not of long duration after he ceased to be magnetised.

'These three cases appear to your committee to be well worthy of remark. The child and the deaf and dumb lad were ignorant of what was done to them, and most certainly it is impossible in either case to attribute to the imagination the sensibility to magnetism. Still less is it attributable to this in the case of M. Itard, — a man well capable of guarding himself against mental error and sensible delusion.'

[To be Continued.]

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* "The 'somnolency' in these cases appeared to be the transition from the waking state to that which is called the 'magnetic sleep,' or 'somnambulism.

ON INFANTILE CONVULSIONS, &c.

By Professor GRAVES, *of Dublin. — Extract from a Clinical Lecture.*

When we consider the convulsive affections of the infantile period, we find that they may arise from a variety of causes. In the first place, they may be produced by the process of dentition. Some persons seem to think this impossible: but it is not only possible, but true; for teething is capable of exciting a very great degree of irritation in the system. We also observe that an irritable state of the brain, accompanied by a hydrocephalic tendency, will produce convulsions; but in very many instances, particularly in children of the ages mentioned above, they proceed from intestinal irritation. Of those forms which spring from the irritation of dentition, or of cerebral excitement, I do not intend to speak, as, on these matters, the standard medical works furnish abundant information. I shall restrict myself, therefore, to some observations on those convulsions which depend on intestinal irritation. As such convulsions frequently arise from causes which affect digestion, and produce a change in the mode of nutrition, they appear very soon after birth. The animal, which but a short time before was nourished by the placenta, is now supported by ingesta; and hence, from this sudden change, if there be any source of irritation existing in the system of the child, or in the nature of its food, an unhealthy state of bowels rapidly ensues. To the consequences of this affection, manifesting itself so soon after birth, nurses have given the name of *nine-day convulsions.* Again, when another change is made, and the nurse's milk is left off, children are also liable to convulsive fits, and these are the convulsions of ablactation. In fact, at any period during the first year, infants are very apt to get convulsions, from various causes. If the mother uses an improper kind of food or drink, or gets into a bad state of health, or be strongly affected by mental emotion, the quality of the milk will be suddenly changed.* Under all these circumstances, or if the child be over-fed, (a very common fault,) the bowels get out of order, the whole intestinal canal is thrown into a state of irritation, and convulsive fits succeed.

It is necessary to be more explicit on this subject. When you are called to treat a case of infantile convulsions, bear in mind that they very frequently arise, particularly during the first six months, from the cause before mentioned, and this should, therefore, claim at once your attentive consideration. I remember the time when it was the common practice to treat every case of convulsions as if it were an hydrocephalic attack, and when antiphlogistics, calomel, and cutaneous irritation, were the indiscriminate means employed in combating every form of this disease. If a child happened to get a convulsive fit, it was immediately said, here is inflammation or congestion of the brain ; and leeches were applied in successive relays, calomel given in large doses, egg-shells, crabs's eyes, magnesia, and other absorbents administered, and the unfortunate infants cruelly tortured by the repeated application of blisters to the scalp. I have seen cases where this blistering was carried to such an extent, that the child had not a place to rest its head upon. It is to Dr Gooch we owe the valuable discovery, that there is in children a state of heaviness of head and torpor, accompanied by a tendency to convulsions, in which depletion cannot be employed, and where narcotics and even stimulants may be used with advantage. Dr Locock asserts, that convulsions of this nature may be recognised by the depressed state of the fontanelle, an assertion which I have not yet verified. With respect to leeching, I have to remark, that a single leech to an infant is equal to a bleeding in an adult; and yet how often have we seen children leeched and leeched, until, becoming pale and exsanguineous, they sink as much from loss of blood as from the effect of disease.

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* It has been lately proved, that the custom adopted by some, of keeping the child at the breast for a year or a year and a half, is both unnatural and injurious. Every child should be weaned when nine months old.

With respect to the causes and periods of indigestion in children, I have already spoken. There is one point more which I wish you to hold in memory. Milk is a compound fluid, a beautiful emulsion furnished by the hands of nature, in which sugar, oil, and curd, are blended with a certain proportion of water. Now, when a compound fluid, such as milk, enters the stomach, and is submitted to the process of digestion, those parts which are soluble in water are absorbed, and those which are not, become first coagulated, and afterwards undergo resolution in the gastric juice. Thus, while the water and sugar are absorbed, the curd of the milk is separated from it by coagulation, and forms a solid substance, which is acted on by the stomach, and becomes dissolved by the agency of the gastric juice, and in this way contributes to nutrition. Not a particle of the milk, however, ought to enter the duodenum until it has passed through the usual process of digestion. As the first step to the accomplishment of this is the coagulation of the curd, this occurrence takes place with extraordinary rapidity; and it is a sign of health if the milk be thrown up in this state immediately after it has been sucked. The rennets of young animals give striking evidence of this power. But if it should happen that the stomach does not act properly, and the curd remains undissolved, what is the consequence? The curd passes into the alimentary canal in a condition different from that in which nature intended it should, and consequently produces intestinal irritation. None of the purgatives given to children are attended by half so much griping as this substance. This explains the phenomenon which, in such cases, present themselves to our observation. The child becomes griped, irritable, and feverish, his tongue is loaded and white, he gets restless, and now and then utters a shrill scream. In this way the disease may go on for a considerable time; as the child is dropping asleep, he starts suddenly and screams out, bends himself in the form of an arch, and throws his head back as in opisthotonos. I have seen children in this state, for a week. The physician, or nurse, gives castor oil, or some other purgative, and a great quantity of the curds are passed, and surprise the child's relatives. On examining the discharge, you find it consisting of lumps of different sizes, colored imperfectly with bile, and having a burnt appearance; on breaking them up, you perceive them to be white internally, and consisting of indigested curd. You remove these by purgative medicine, and the child gets well. Now, we all can do this; it is clearly laid down in books: you are told to examine the egesta, and give purging medicine where it is necessary. But there is one fact which has not been noticed. When you have treated the child in this way, and the attack has been cured, if the child is very strong, when put to the breast again, he may go on well, and you have no further trouble, but if he is weakly, or of an irritable habit, when he is brought back to the suck again, or spoon-fed with milk, the same process of imperfect digestion takes place, and he gets another fit. The physician is again called in, and repeats the purgative, and the child gets better a second time; and, in this way, the physician goes on giving medicine, and the mother giving milk, and every body wonders at seeing what a quantity of foul stuff passes from the bowels. How are you to avoid this? By making the infant abstain from milk in any shape for twentyfour hours, sometimes for the space of two, or even three days. It is incredible how small a portion of milk, even in the most diluted state, will keep up this disease, acting like a species of poison on the intestinal mucous surface. You know, that animal poisons, such as the variolous, or vaccine virus, will affect the system, even when applied in a state of extreme dilution, and you can therefore conceive, that a small portion of milk will operate in this manner. I attended a case of this disease some time ago; the child had a relapse, and, on being called in again, I asked the mother whether she had given it any milk, and she told me, scarcely any. I am always suspicious where I hear the word *scarcely* used; and, on requesting to see the kind of food she had been administering, she handed me a bowl of barley water, with the usual proportion of milk and sugar in it: it is in this way that we see the disease prolonged week after week by the prejudices of the nurse, and the ignorance of the physician. Well, if you forbid milk altogether, what will you give the child? Let him take chicken broth, barley water, thin panado, veal broth, or whey. How long are you to continue this? The number of days will depend on the power which the child possesses of regaining the proper tone of the stomach; some children will have the stomach out of order to-day and well to-morrow, and the length of time you are to keep up this diet will vary considerably. When you are called, therefore, to a case of convulsions, inquire into the history of its symptoms, the nature of the alvine evacuations, and the quality and quantity of your patient's food; and if you find that, before the attack, the child's bowels have been in a bad state, that they have been for some weeks inclined to be loose, or that the stools are, at the time, similar in color and consistence to what I have described, (though, by the by, you are often told, that everything is quite right when it is not the case,) you will then be able to judge properly of the nature of the case, and, by giving aperient medicines, you will probably not only cure the disease, but also prevent a return of the convulsions. Sometimes, however, the convulsive fits will remain after the irritating sordes have been removed by purgative medicines. Absorbents are next made trial of. These have a very beneficial influence in many cases, they can do no harm, and where acid is present, (and this occurs in the stomachs of children to a greater extent than in those of adults,) prove mildly purgative. But if the convulsions continue, what else will you prescribe? I remember attending, not long since, an infant, about three or four months old, who had been for some time under treatment for convulsions. Leeches had been applied to the epigastrium; it got calomel, castor oil, and hydrargyrum cum creta, absorbents, aperient and fœtid enemata, and blisters to the vertex and stomach. Still the convulsions went on. Well, what did I do? I prescribed the following mixture, ℞. Spirit. terebinth. ʒj.; olei ricini, ʒiv.; syrupi papaveris albi; mucilaginis g. Arabici, aquæ fœniculi, āā. ʒij. Of this mixture, when well shaken, exactly ʒj. was to be given every third hour; and what was the result? It operated on the bowels, and produced a copious discharge of urine, a marked improvement took place, and towards evening the convulsions entirely ceased.

My friend, Dr Brereton, has, in similar cases, after the bowels were evacuated, succeeded in preventing a recurrence of the convulsions by means of the following mixture, suited to a child six months old: — ℞. Olei anisi, gt. iv.; Sacchari albi, gr. x.; intimè misceantur et adde Aquæ fontis, ℥ij.; Pulv. rhei, gr. x.;

Carbonat. magnesiæ, ℈j.; Tincture opii, gt. iv.; Spirit. ammoniæ fœtid. gt. x. Sumat cochleare j. medium tertia q. q. horâ.

It is to be observed, that much caution is necessary in giving such combinations containing opium to infants, but there is a period when depletion ceases to be useful, that a mixture like this will prove the most effectual means of curing convulsions. In such case of convulsions, in addition to the use of purgative medicine, prescribing the mother's milk, and giving spirit of turpentine, you may, during the first twentyfour hours, while the child is strong, order a warm bath, applying, at the same time, a sponge dipped in cold water to the head; or, if the child be weak, incline its head over the side of the cradle, and use the cold sponge, and you will find that it will diminish the fit. — *Lond. Med. and Surg. Journ.*

CHLORIDE OF SODA IN BURNS, SCALDS, AND BLACK-EYES.

Mr Holt recommended at a meeting of the Westminster Medical Society, the chloride of soda as the best application he is acquainted with in the cases just enumerated. Mr H. stated that he was called to a child that had pulled a saucepan of boiling water over its face and chest, on Monday, by which the whole of the cuticle was destroyed. He had four ounces of the solution of chlorine and water made up and applied, and subsequently chlorine mixed with unguentum cetacei spread on the parts. The result was, that by the following Saturday, the injured part was perfectly well, while a small portion on the back, treated by other means, was unhealed for a fortnight. He particularly recommended the use of the chlorine where vesication had not yet taken place; and pledged his veracity, that if applied immediately after a scald had occurred, not the slightest scar would remain. Where the skin was broken, it was his custom to make the lotion of four ounces to a pint of water, and the ointment of a consistence not quite so thin as cream. Among other cases he cited was one of a solicitor, whose hands were much blistered in putting out the flames of his bed-curtains, fired by his servant. He, (Mr Holt,) sent a couple of quarts of the lotion to this gentleman, had it poured into soup plates, wrapped his hands in lint, as no skin was broken, placed them in the plates, and kept them there some time, and the next morning his hands were so perfectly well, that only one small dried patch of burn existed; and he was not out of his office an hour in consequence of the injury. An hour and a half had elapsed before the application. For the first few minutes the remedy increases the pain, but after that it produces ease. He would also state, that he knew of nothing so efficacious in a 'black-eye' as the application of a solution of chlorine. It would disperse the awkward effects of a blow in that direction, almost like a charm. — *Lancet.*

POLYPUS UTERI.

Reasons which induced M. Dupuytren to abandon the Ligature and employ Excision.

Two methods of operating are at present adopted by practitioners with regard to these uterine tumors — viz. *ligature*, which is adopted by a great number of surgeons, and *excision*, which has been exclusively adopted by M. Dupuytren for many years. The many inconveniences (he said) which attend the former, have led me to prefer the other. 1st. The ligature is not easily applied; a fact sufficiently proved by the number of instruments which have been contrived with a view of effecting this object: besides which, it scarcely ever includes the whole of the pedicle, and this gives rise to the tumor growing again as before. 2dly. What has above all led me to abandon the ligature, is the consecutive effects. The patients continue in a satisfactory state for two or three days after the operation, but, at the end of this time, a fœtid discharge takes place, resulting from the mortification of the tumor; symptoms indicative of the absorption of purulent matter supervene, and the patient sinks, notwithstanding the use of tonics and antiseptics. After death, traces are found of violent uterine inflammation, extending to the adjacent parts. Sometimes, indeed, those appearances are not found; but still the conviction remains that the patients have been destroyed by purulent absorption. I have notes of eight or ten such cases, which have occurred in this hospital; but I have never seen these consequences result from excision. 3dly. The ligature is very painful, and continues till the tumor is detached; while the section is unaccompanied by pain; the patients, indeed, being immediately relieved. 4thly. Sometimes the ligature gives rise to pain, which extends to the iliac fossæ, and excites inflammation in the appendices of the uterus, which becomes fatal after having, by the mildness of the disturbance, excited hopes for some days of the patient's recovery. 5thly. Inflammation of the veins about the pelvis is another consequence apt to follow the ligature, but which I have never seen from excision. 6thly. The coming away of the ligature is usually followed by the cicatrization of the parts; but this does not always happen, and sometimes the discharge, &c, continue, and to such an extent as to prove fatal. M. Dubois states *(Dict. des Sciences*

Médicales, art. ***Polype)***, that he has repeatedly seen bleeding come on after the fall of the ligature, and the patients perish from this cause. 7thly. The ligature, even by those who adhere to it, is allowed to be inapplicable in cases where the tumor is formed almost entirely of the uterine tissue, and where the pedicle is very large; indeed its application is impossible where the surface at which the polypus adheres is very extensive. In this case, however, nothing forbids excision — nay, it is the only means which is applicable. 8thly. These dangers and inconveniences attendant on the ligature being avoided by the immediate division of the pedicle, it remains to weigh against them the fear of hæmorrhage. Now long experience and numerous trials show that this hæmorrhage is exceedingly rare. The number of polypi removed hy excision, by M. Dupuytren, during the last twenty years, amount to from ten to fifteen annually. Take the smaller number (ten); this, multiplied by twenty, will give us 200. Well; in this large number, hæmorrhage has only taken place twice — one in the hospital, and once in private practice; while, in both instances, it was promptly and easily arrested by plugging. One of the patients, indeed, died, but not till the twentyfifth day after the operation, having labored under extensive peritoneal inflammation, as was demonstrated by the post-mortem examination. M. Velpeau, in eight cases, has never met with it. Such are the dangers of hæmorrhage so loudly proclaimed!

[It is to be observed, that M. Dupuytren always employs a pair of scissors — never a knife: perhaps the manner in which the former act, by bruising as they cut, may serve to explain the infrequency of bleeding.] — *Lond. Med. Gazette.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—Willis.

Art. I. — Boston Society for Medical Improvement.

Regular Meeting, May 13*th* — Dr Coit in the chair.

Dr S. reported a case of intermittent fever in a seaman, who took the disease in the West Indies. It was attended, when he came under treatment, with considerable general dropsy, and with violent cough, which was as decidedly intermittent as the fever. He was treated at first with cathartics, especially supertartrite of potass, which was presently combined with powder of squills. Pulse was at first 134; but in a few days fell to 80, and in the same time, the dropsical appearances were removed. Afterwards quinine was given, and the patient recovered in about a fortnight.

The same gentleman was called a day or two before to a little girl who had received a slight wound on the left cheek two days before. The morning after the injury the face was awry, and has continued to the present time, very much drawn to the right side — tongue protruded straight — cannot close nor wink the left eye — cannot spit — sensibility of affected side is unimpaired — no pain, but a little uneasiness from contraction of muscles — no appearance of external injury, no headache, dizziness, nor other mark of cerebral affection, nor any constitutional disturbance.

Dr S. spoke of cases of palsy of the lower extremities which he had sometimes seen in infants before teething — limbs shrink and become useless for a time — muscles flaccid. These cases have not generally recovered well. The Dr considers the sciatic nerves to be the seat of this affection. Sometimes they never recover, and then the lower part of the spinal cord may be affected. Dr W. related the case of a child which lost the use of all the extremities while teething; but after several months recovered — was much worse after a blister had been applied to back of neck.

Dr S. related another case of paralysis of the face; which occurred last January. A lady had scarlatina in the summer, followed, not long after, by suppuration in right ear, which lasted several weeks. This ceased in the first part of the winter, and there came on headache and pain about ear — left side of face and tongue became paralysed — could not eat with comfort — dizziness, felt particularly early in morning, and aggravated by stooping — is excessively costive. Suspected disease in right side of brain, for which she was blistered, leeched, and cupped, and purged — headache and dizziness were relieved, but not the paralysis. This last then yielded to blisters behind and around the left ear.

Another gentleman mentioned a case which occurred some years ago, in a woman who had a running from the ear, for which she used an astringent injection. It dried up, and severe headache came on. After bleeding, leeching, and purging she got relief; but in the evening coma came on, and she died before morning. On examination the temporal bone was found carious, and about a teaspoonful of pus under the dura mater — brain engorged — tube of ear denuded of periosteum.

Dr — mentioned two cases in which hooping cough had occurred a second time. The first was that of the mother of a family, who had had the disease when a child — disposed to cough — two or three years ago her children had it, and she soon began to be similarly affected. The second, has occurred lately — one child having had the disease for seven weeks, and another for five — the mother began to have a frequent tickling cough, which soon became violent and strangling, with the peculiar sound. Had leeches, opiates, mercurials, a large blister, and antimonial ointment, without relief — afterwards tried the Prussic acid, with some benefit — had had the disease when 12 years old. Dr S. has seen this disease followed by pustular eruption. In one family two or three children were taken sick last fall, and are not well yet — these have sores on the soles of the feet, ribs, and extremities. Another gentleman mentioned other cases, but considers them accidental.

Regular Meeting, May 27th — Dr Gay in the chair.

Dr W. communicated a case of *fatal wound of the thorax,* with the post mortem examination.

Dr W. related a case of *pulmonary disease* connected with *pericarditis.* The patient had disease of testicle, and castration was performed, soon after which symptoms of phthysis came on, and he died. On examination, among other morbid appearances, a portion of the right lung exhibited disorganization, resembling schirrus — pericardium filled with pus on right side. It was remarkable that the pericarditis had neither been detected by the physical signs, nor by its usual symptoms.

Dr S. related a case of *disease of the heart* — patient 29 years old, accustomed to high living. The complaint was attributed to a fall from a horse four or five years ago, having had palpitation from that time. When the Dr saw him, he had pain in right side — tongue partly covered with a curious eruption — no appetite — nausea — diarrhœa — pulse 100, irregular in force — cough — thorax enlarged on left side — heart beating violently — bellows sound distinct over mediastinum, occasionally a partial rasping sound over left auricle — anasarca. The digestive function was regulated, and his health soon improved. The patient, however, continued his indulgences, and died suddenly. On examination, all the cavities of the heart were found to be enlarged — right auricle filled with blood — valves healthy — aorta dilated at its origin, but contracted beyond — substance of lungs healthy; but bronchial membrane inflamed — stomach healthy — liver large and granulated.

Meeting, June 10th — Dr Stevenson in the chair.

A paper was read on *diseases of the prostate gland,* and a specimen exhibited.

Dr W. mentioned the case of a lady who had *palsy* of the left side for three or four months, coming on after a fall — the day before yesterday that side became affected with *convulsions,* which at last became general — great pain in one of her limbs, with twitching — senses retained.

Dr D. was called to a boy who had *fracture of the skull with depression*—two hours after the accident, opened the scalp and removed portions of the frontal and parietal bones. The patient lay in a quiet state, unconscious, with hemiplegia — this last symptom continued till the next afternoon, when there came on convulsions which lasted till the following day — coagula of blood were then removed from the head, and cathartic enemata given, after which the hemiplegia was relieved. Day before yesterday he was so well that he asked to read. It was remarkable, in this case, that there were no symptoms of inflammation of the injured part, and that the convulsions affected the paralytic side.

Dr J. Jackson exhibited a specimen of *introsusception* at the union of the small and large intestine, and read the following history of the case, as drawn up by the physician who attended the patient.

'The subject of this case was a male child, 7 months old; healthy from its birth — large and fat — bowels always regular — evacuated every morning, dejection being tinged with green, but this caused no concern, the child appearing as well as usual — between 4 and 5 P. M. another dejection, loose and green — no pain till about 5 o'clock, when, while playful in his mother's arms, he refused the breast, crying out suddenly, rolling his eyes, and drawing up, and stretching out his feet; being absent from home, I did not visit the child till 9 o'clock, when he presented the following symptoms: he was lying quiet in lap — eyes nearly closed, rolling in sockets, inclining to inner canthus — countenance natural — head rather hot — tongue pretty clean — gums covering the incisors swollen, one incisor cut through — breathing short, not laborious, not audible — abdomen soft, not distended nor painful on pressure — skin of trunk of natural heat, extremities cold — pulse 120 to 130, not regularly frequent, small, not hard. This quiet state was soon interrupted by a paroxysm of distress — the head was thrown from side to side, the thighs and legs alternately drawn up and stretched out, the muscles of the body strained and relaxed — the complaints of the child were not piercing cries, but moans accompanied with distress of countenance; symptoms continued with less severity through night. I saw him at 5 the next morning — he had been easier from 11 to 3 — since that, in more pain — symptoms, as last evening, except that limbs were colder, and respiration accompanied with noise caused by straining to discharge the bowels — no nausea, except this morning, on taking castor oil. At 9 A. M. no relief — has discharged about half a teaspoonful of bloody mucus from bowels — several enemata have been given since commencement of disease, which, when discharged, were bloody; some of them were not retained an instant — to be sure that this was not from want of dexterity, I administered several myself — the result was, a child's syringe full could be easily injected; and in two instances the liquid was retained nearly an hour, and when discharged, brought back nothing with it except the bloody color — twice the liquid immediately returned. At 12 in the morning, evidently worse — pain more severe — skin cold and purplish as if it had been long exposed to cold air, retaining the marks of my fingers after slight pressure. To mitigate the suffering, he was put into a warm bath, after which he became easier — vomited once a colorless fluid which he had drank — breathed shorter — pulse gradually became indistinct, and he expired at 2 o'clock, (21 hours after the attack,) without a struggle. When the child was first seized, the mother, having learned that it ate a little rice and a small piece of bread at dinner time, gave it wine of ipecac, after which it vomited curdled milk, but not being relieved, Dr R., in my absence, was called in and gave a second dose of the same — it again vomited, but no offending cause appeared — an enema was then given and repeated, which came away slightly colored with blood. From this the nature of the disease was suspected, but the other pathognomonic symptoms were wanting — no tumor could be felt in the abdomen — opium was given in the evening, and alleviated the pain from 11 till 3 o'clock.'

The introsusception was seen as soon as the abdomen was opened — the intestine was carried upwards and towards the median line — there were ℥ ij or iij of bloody serum in the peritoneum, but no inflammation, none even about the disease, for, as could be seen without withdrawing the invaginated portion, this portion, on slitting open the colon, was found of an intensely dark red color, swollen and covered thickly with bloody mucus — it consisted of the cæcum, a small portion of colon, and half an inch of ileum, the whole measuring 5 inches in length — the cæcal valve was distinctly seen inverted, and a probe could be passed through the appendix cæci, the free extremity of which protruded through the mouth of the invagination, and was of a deep red color — the mucous glands were enlarged through the whole tract of the large intestine, as were also the patches of aggregate glands in the lower part of ilium, where were some appearances of recent inflammation — below the disease, the intestine contained a thin bloody fluid ; above, moderately distended, with a yellow liquid — no solid contents nor any lumbrici. Other organs healthy.*

June 24th — Dr Wing in the chair.

Dr T. mentioned two cases of *dysuria* which he had lately seen, both of which were in children; one of them 3 or 4 months old. The complaint had existed since birth — pain whenever urine was passed — no appearance of inflammation. One of them used diluents, and was gradually relieved; the other took in addition capivi with paregoric; but relief in this case was slight.

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* The diseased portion of the intestine was exhibited, and is preserved in the museum of the society.

A paper was read on *feigned* diseases.

Dr W. related a case of *pneumonia* with softening of the heart. A lady 65 years of age subject to chronic cough, and supposed to have had pericarditis two years since, was taken sick three weeks since, and came to this city, and was visited four days before her death. Nausea was the most pressing symptom — headache — suffocating dyspnœa — cough, with expectoration of rusty solid mucus — pulse not much affected. She was bled freely, and took antimony, which relieved the nausea — but became comatose 12 hours before death. On examination, nearly all the right lung was hepatised, with old pleuritic adhesions — left lung healthy — pericardium contained the usual quantity of water, without any appearance of inflammation. The substance of the heart was so much softened, that, on lifting it up, it broke down nearly like brain — the color was dark and livid. Dr W. thinks that these appearances show a recent inflammation of the substance of the organ.

Meeting, July 8th — Dr McKean in the chair.

Dr S. gave a fatal case of *uterine hæmorrhage* — a woman, the mother of several children; and being three months advanced in pregnancy, was taken suddenly, in the forenoon, with profuse flowing, which continued till afternoon, when Dr S. was called. Found her on bed — pulse feeble — considerable prostration — no uterine pains. Ergot was given, till it produced vomiting; but still no pain. The vagina was filled with coagula; but the placenta could not be felt. The tampon was then used, and ice. The flowing not being checked by these means, warm applications were tried, but in vain; the woman continued to sink — diffusive stimulants were then given. Few minutes before death, removed a fœtid placenta which came down near the os uteri. No examination of the body was made. The child in this case had probably been dead for some time, and had come away without the knowledge of the mother or attendants. For the last week she had been in a feeble state, with fœtid vaginal discharges, and the uterus seemed to be palsied, by the decomposing membranes, and could not be made to act, though stimulated mechanically by the finger. The woman had flowed once before, in a former pregnancy; but no cause was assigned for the present abortion.

ART. II.—SPIRIT OF FRENCH PERIODICALS.

Case of Cholera. This case was reported by M. Serrurier to the Society of Practical Medicine of Paris, at its sitting, January 3rd, 1833. The individual was attacked early in September, with obstinate vomiting of serous matter, and with bloody diarrhœa. His sufferings were extreme; the mouth was open, the countenance shrivelled, the eyes dull and sunk in their orbits, the eyelids blue and half shut, and the feet of an icy coldness while the heat of the body was very great. The motion of the heart was feeble and irregular.

This state of things had continued two hours, when the nurse, having heard M. Serrurier speak of the effects of cold bathing in analogous cases, immersed the patient for several minutes in cold water. He seemed to be decidedly relieved by this process, and an hour afterwards he was subjected to a stream of cold water poured upon his whole body directly from a pump, and continued ten minutes. This effusion was evidently grateful, but on account of the occurrence of rigors it was discontinued and external warmth was applied. This was followed by thirst, and the patient was allowed cold, sweetened orange water. This drink was rejected, and water, edulcorated with current jelly, was substituted and drank with avidity. For the diarrhœa two spoonfuls of the syrup of pomegranates were given. The symptoms now subsided; the patient was kept upon a rigid diet for five days, and the appetite and strength were gradually reëstablished. The subject of the above case was a *parrot*, aged two and a half years.—*Lancette Francaise.*

Observations made at the Neckar Hospital during the last nine months of 1831; *by M. Bricheteau.*—Among the facts contained in this work we notice the following:—A plaster sprinkled over with half a drachm of tartarized antimony was applied to the epigastrium of a young girl, attacked with nervous vomiting. The plaster was removed after remaining on two days. It was followed by a large and deep gangrenous eschar, aphtha of the mouth, and other accidents, which proved fatal.

Fatal hæmorrhage from leech bites. — Fifteen leeches were applied to the belly of a young girl suffering with abdominal pain, attributed by the patient to the presence of worms in the intestines. The bites were negligently suffered to bleed during twentyfour hours, and the girl died, in consequence. M. B. was induced by this unfortunate occurrence to ascertain the quantity of blood that would flow from a leech bite in a given time. He obtained three drachms in ten minutes, so that at this rate a single leech bite might yield three pounds of blood in twentyfour hours.

Treatment of painters' colic by opium alone. — M. B. says that this disease has frequently come under his care, and that it has always yielded readily to opiate preparations, without the assistance of emetics or purgatives. He commences with a pill, containing a quarter of a grain of opium, given every hour — increasing the quantity of medicine according to the inveteracy of the disease. He sometimes adds to this treatment the use of laudanum, by injection, and applies an opiate plaster to the abdomen. — *Revue Médicale.*

Clinical conferences of M. Louis, at La Pitié. Pneumonia. Its symptoms and treatment. — Of thirtyseven patients affected with pneumonia, thirty have been cured and seven have died. The mean age of the former was fortytwo years, of the latter sixtytwo years. In seventeen cases the phlegmasia was situated in the superior lobes of the lungs, in twenty cases it occupied the inferior lobes. The mean age of the latter was thirtyfive years, of the former fiftyfour years. Among those who died, five had the inflammation in the superior lobes, and two only in the inferior. Some were perfectly well at the moment of attack; others were affected with pulmonary catarrh either acute or chronic; in the lungs of four there were tubercles. — *Common symptoms:* — The disease commenced most frequently near the close of the day or in the night, by a rigor more or less violent, — and in some cases repeated — followed by heat of the skin, headache, contusive pains in the limbs and diminution of muscular power. In the majority of cases, these symptoms continued from twelve to thirtysix hours; there then supervened, pain in the side, augmented by coughing and by respiration, with a scanty and difficult expectoration of a very viscid mucus, in a few instances tinged with blood from the commencement. The respiration became laborious and quick — from forty to fortyfive inspirations in a minute — the respiratory murmur became extinct, the crepitous rattle and bronchophony appeared, and the chest over the inflamed lung gave a dull sound on percussion. The pulse was quick, the skin moist — there was great thirst, loss of appetite, sluggish bowels and high colored urine. It will be seen that here, as in the exanthematous affections, there was a febrile excitement of from twelve to thirtysix hours duration before the appearance of any local symptom.

The initial *rigor* was wanting in only four cases. It came on under various circumstances. Some patients were attacked by it while engaged at their work. In the greatest number of cases, however, the attack was in the middle of the night. The *pain* was absent in only two cases of the thirtyseven. In thirty-four cases this was the first local symptom. It was very rarely obtuse and deep, but almost always acute, lancinating, and augmented by the cough, inspiration and percussion. By this last means it was easily ascertained that the pain, instead of being circumscribed to a small point of the thorax, as has been maintained by many authors, occupied a space of from four to seven inches square in extent. The pain persisted during the mean term of seven and a quarter days. The *expectoration* was always viscid, frothy, and adhering to the bottom and sides of the vessel. In three cases it was bloody as soon as twenty-four hours from the commencement of the symptoms; — in others it became so at different periods. The expectoration of viscid, globular sputa, where there was no thoracic pain, indicated a central inflammation of the lung. In those patients where the disease was in the lower lobes, the mean duration of the expectoration was seven days; in the others it was ten days. It will be remembered that the average age of the latter class was considerably less than that of the former, which accounts for the difference. The *crepitous rattle* was absent in only a single case. The period of its persistence was variable, averaging fourteen days in the cases where the phlegmasia was in the superior, and ten only where it was in the inferior lobes.

In the case where it was wanting, the sputa were more viscid than in any of the others, and by their close adhesion, they probably prevented the admission of air into the pulmonary vesicles. In this case the sound on percussion was flat, and there was no bronchophony. The mean duration of the *bronchial respiration* was eighteen days in the inflammation of the lower lobes, and nineteen days in that of the upper lobes. The average period during which the *bronchophony* continued was twentyone days in the phlegmasia of the superior lobes, and fifteen days in the others. The *flat sound* was sometimes present early in the disease. Three patients exhibited this phenomenon fourteen hours after the appearance of the first symptoms. 'I he mean term of its continuance was eighteen days. *Egophony* was heard in only a small number of cases. The *pulse* was more than a hundred in a minute in only twelve patients. There was no disturbance of the digestive organs observable, except such as was indicated by loss of appetite and more or less thirst. The tongue was ordinarily moist, and covered with a light colored coat. In three cases it was dry, hard, and cracked. The *buffy coat* of the blood was wanting in only one instance. *Treatment:*—The active means of treatment consisted of blood-letting, antimonials and vesication. In a great number of cases the headache disappeared in consequence of the bleeding, but the pleuritic pain, the crepitous rattle and the expectoration persisted for a longer or shorter time, notwithstanding large abstractions of blood. Sometimes the sputa, which had previously been colorless, became sanguineous after the bleeding., Although M. Louis does not believe that pneumonia can be *strangled* by blood-letting, he still regards it as one of the most efficient means of diminishing the intensity and abridging the duration of the disease. The average duration of the cases was several days less where venesection was resorted to previous to the fourth day, than in those where it was not used so early.

Tartarized antimony. This substance was used in sixteen cases, recourse being had to it when blood-letting had proved insufficient. In fourteen cases its use was followed by diarrhœa, and in twelve it occasioned vomiting, but the disturbance of the stomach and bowels dissappeared as the medicine was increased in quantity. After the employment of the antimony for two days, there was a manifest amelioration of the symptoms in thirteen cases. M. Louis thinks that the effects of the antimony cannot be explained simply on the principle of a revulsive operation. In post-mortem examinations, after its use, he has never discovered any traces of gastro-intestinal inflammation. He gives the antimony in doses of from six to eighteen grains in an aromatic, mucilaginous, or opiate portion.

Vescicatories. M. Louis doubts the utility of epispastics in the treatment of acute inflammation of the pulmonary parenchyma. He thinks that the artificial inflammation increases instead of diminishing the fever, in consequence of which there is a greater liability to secondary accidents.

The *prognosis* was deduced, principally, from the age of the patient and the extent of the phlegmasia. Other things being equal, the disease is much more dangerous among old people than among adults. Among the seven patients in whom the disease was fatal, one only was fortyone years old. All the others had passed the age of sixty years. — *Lancette Française.*

ART. III. — SUICIDES.

INSTANCES of self-destruction have been unusually frequent in the United States during the last few months. Medical men and other attentive observers long ago noticed the fact, that in certain districts and during certain periods, there was a great increase in the number of suicides. Baron Dupuytren, in a clinical lecture at the Hotel Dieu, in April, stated that the same thing was then true in regard to Paris. There can be no doubt of the truth of the observation, and various explanations have been given of the fact itself. In some cases, as for instance, in times of high and stormy public excitement, when parties and individuals are subject to a continual succession of triumphs and reverses ; or when a whole people have been deprived of their civil and political rights, or are suffering with the horrors of famine, the causes of the frequency of suicide are obvious, and need only to be alluded to in order at once to be seen and understood. But the prevalence of self-murder is very frequent under circumstances and states of the public mind totally different from those just referred to, and it is to the reasons for this prevalence that we wish briefly to call the attention not only of our readers, but of the conductors of the public press.

One of the causes to which the periodical, common occurrence of suicide has been assigned, is the existence of an *epidemic influence*, exciting and increasing the propensity to the commission of this crime. The soundness of this opinion must be tested by the same rules of reasoning which we apply to the question of this epidemic influence in its more commonly admitted and familiar modes of operation. We reason from an effect produced to some equivalent cause, and as we cannot find this latter in any of the sensible materials or appreciable influences of the external world, acting upon us either from without or within, we attribute it to an inexplicable *something*, in relation to which we may truly say, '*we know not whence it cometh, nor whither it goeth.*' It has been sought for in the air and in the earth, — it has been summoned from the 'vasty deep,' but it would not come: philosophy has speculated on its origin, and science has endeavored to ascertain its nature and demonstrate its presence about us, in vain. Still its existence, its all pervading and terrible energy is nowhere denied or doubted, and modern observation has contributed not a little in widening the sphere and multiplying the modes of its action. Next to its mysterious nature, this versatility of its effects, is its most wonderful characteristic, manifested at one time by the production of an ephemeral influenza, and at another of that new and most appalling of all its consequences, the malignant cholera. If, as the result of this morbific agent or principle, there is produced a general predisposition to diseased action, sometimes of one nature, sometimes of another — situated sometimes in one set of tissues or organs, sometimes in another, it is perfectly reasonable to suppose that its action may, at least in its indirect effects, under certain circumstances which elude our observation, increase the propensity to suicide. If this be indeed the case, it ought also to happen that coexistent and coextensive with the epidemic prevalence of suicide, there should be found various forms of insanity; this latter, like the former, resulting from the general predisposition to disturbance of the cerebral organs. That observation has already shown this to be true, we do not mean to assert; we say, merely, that the opinion seems to us perfectly consistent with the ascertained laws of the epidemic influence, and its acknowledged operation on the human system.

There is one other consideration connected with this subject which seems to us worthy of special attention, and that is the effects of the *publicity* which is given to instances of suicide through the medium of the press. While many pleasurable feelings become more acute by their indulgence, and grow by what they feed upon, it appears to be a law of our nature that nearly all painful impressions, whether bodily or mental, are diminished in intensity by repetition; in some cases becoming, at last, positively agreeable. Familiarity with evil, lessens our dread and horror of it, and suicide as well as vice, we may

'First loathe, then pity, then embrace.'

Whether there be or not any such thing as an epidemic tendency to self-destruction, an individual predisposed, from any causes whatever, to the perpetration of this violence upon himself, would be more likely to cherish and finally accomplish the criminal purpose when similar acts were frequently occurring about him, than he would be under opposite circumstances. If this principle is true, and it is supported by abundant and repeated observation, it is easy to see that most extensive evil may and must result from the wide diffusion that is so generally given to instances of suicide. We may observe, in this connection, that there has, probably, never been a time since the settlement of New-England when the public mind, not only in this portion of the country but all through it, was so thoroughly familiarized with the subject of suicide as it has been during the last few months. Almost every man, woman and child, in the whole country, able to read, has within this time waded through the minute, circumstantial and sickening details of suicide, contained in the trial of the Rev. E. K. Avery. We might suppose that for once the market had been fairly glutted with this sort of commodity, but, the excitement of these disgusting recitals — like all other bad habits — is increased by indulgence, and the demand still continues greater than the supply. Over the predisposing causes of suicide, we have, probably, but small control, but this exciting one, arising from familiarity with the subject, may to a considerable extent at least be removed, and we cannot but hope that the conductors of our newspaper press — that mighty mover of public feeling and opinion — will, in justice to their own consciences as well as in duty to the common weal, discontinue the practice of circulating through the community all the accounts of suicides that they can lay their hands upon. Condemning the crime, while instances of its perpetration are constantly held up to the public mind, will accomplish far less good than *letting it alone.* If this depraved taste must be gratified, if this morbid appetite must be indulged, let some one who is willing to condescend to the ignoble occupation set up his weekly or his daily sheet and fill it to repletion with

> 'Gorgons and hydras and chimeras dire ;

but by those of the editorial fraternity who would *not* stand at the head of such a publication, let the self-murderer go down to his lonely grave, if not '*unwept and unhonored*,' at least by them, '*unsung*.'

ART. IV. — MEDICAL CHIT-CHAT.

1. Is not there room for a system of Nosology founded on this notion, or division of the ills which flesh is heir to? — 1. DISEASES ; 2. DISORDERS. *Diseases* are few in number, and arise from some poison matter in the body, produced in low states of civilization, and by want of comfort and cleanliness, or food ; as small pox, measles, lues, &c. They diminish in intensity, peculiarity, and number, as civilization advances. *Disorders* are actions of the frame, to expel disease or to procure some quality of blood, or to renew some solids, or to counteract deadly causes, &c. They are rather signs and warnings, than causes. They increase as civilization advances, and as the nervous system, that new world alike of modern science and fashionable nomenclature, is more and more investigated and analyzed. Like the gold of America to the miners and the Spaniards, so becomes this nervous system, the greatest blessing and curse of man.

A superior civilization would possibly extirpate *disorders* from the frame of man, and thus diminish the fearful ravages of *disease*. For without disorder, disease is comparatively mild, and often almost unobserved, as in mild cases of measles, or scarlatina, (see Mc Cullock's notions of its frequency). It is *disorder* which produces our much boasted morbid anatomy, allured by whose visible results and tangible demonstrations, we have left the Baconian system of studying disease and man, to study disorder and death — preferring Baillie to Sydenham, and Morgagni to Hippocrates. What are the boundaries of *disease* and *disorder* in the frame of man and animals? Take a not uncommon case — the effects of the sun on several persons too long exposed to its greatest heat. Suppose all to receive the rays on the head, and that the head is the point of entrance of malady, disease, or disorder, or illness. One person has violent, active, hot inflammation of brain. Another has a cool, sometimes cold, long, slow fever. He looks and feels like a half tanned skin. A third has violent inflammation of liver. These things are common, I believe, in hot countries. Have these persons a disease? or only disordered brain and circulation in the first case; depressed skin and blood, and general inactivity in the second; disordered liver and circulation in the third? or have they a disease, manifesting itself in three forms, in three regular sets of symptoms — three *disorders*, or one *disease*? Perhaps Dr Stevens's investigations on the blood show, if applied to the subject, either that they have one disease, or a wrong article introduced into the head, brain or blood, by the sun; or that the salts of the blood are exhaled, and the constitution of it thence *disordered*. Our disease, if Stevens is right, resolves itself into a disorder of the blood simply, as *morbific matter*, or disease, has been generated or introduced, or a healthy constituent of the frame of the blood has been removed. Try lues and small pox in the same way, and an opposite result would perhaps be found; viz., that the frame or blood was injured by a cause lodged in the body, and not a change of constituent parts. Such a nosology is simple, but requires more knowledge of medicine than is possessed perhaps by the present race of doctors. Some doctors, since John Hunter's apotheosis, ask themselves, in looking at a case, is it inflammation, or is it not? I think, is it *disease*, or *disorder*? would be as useful, and would simplify our treatment.

2. One desideratum in medical literature is a treatise on the successive growth of the organs, which should describe the frame, from birth to seventy years, as Tiedeman described the fœtal brain, or as Spurzheim and others have described the animal brain from its point in the lowest nerved animal, to the full blown man, the actual cauliflower of humanity.

I was led to the subject by a case of Stevenson's, reported to the Improvement Society. A child died at seven months old. Examination showed a state of lungs, which some thought the result of inflammation, others — or I, at least — thought, that the lungs had never done their office, and that perhaps here we had the clue to a law of nature; viz., that till some months after birth, the skin was so permeable to air, that it performed the function of a lung, a vicarious action not unknown in physiology; and that it was assisted perhaps by the liver. We know, by looking at children and adults, that air applied to the skin reddens it. To expand this notion, then — the beginning of action of each organ, its time (era, rather, for it is indefinite, measured by time, probably) of indispensable action, and its time or era of accessary or conniving, assisting action, its death, either before or after the death of the frame, of which it is a part — this appears to me a curious physiological inquiry. Dr T. showed me, a few days since, a reptile heart, taken from a child who died nine months old. It was a blue child, of course — had but one ventricle.

3. A few years ago, when I belonged to the Boylston Society, I suggested the possibility that the principal agent of the circulation had been overlooked, although it was one tacitly acknowledged, but nowhere mentioned by Haller, Hunter, Phillips, Magendie; viz., the blood itself. The bible doctrine, that the life is the blood, revived by Hunter, under the name of vitality of blood, and the then recent experiments of Edwards and Brown, in Europe, on the ultimate molecules of all matter, and, I think, the careful reading of Good's Lucretius, suggested this doctrine. It was strengthened by the consideration, that our body is subject to all the laws of matter, in its solid or liquid or æriform states; the laws of the union, or of life, being paramount; superinduced, but produced by and dependent on, the common laws, like our state and national laws. All nature, liquid or gas-like, moves by an instinct, innate, essential, real power of its own, belonging to the smallest portion we can gather, or separate, or produce. Clouds, mist, dew, sap, juices of animals without heart or vessels, and the extreme parts of man, called extreme vessels, very gratuitously (for motion and fluids are found, when no vessels are found or known to exist,) all these have intestine, constituent motions, self-dependent, eternal and unchangeable.

Why should not this power act in larger vessels and the heart? Blood taken out of the body has motions, as in cupping, when inflamed. Should it not much more move, when enclosed in warm tubes at 98°, and constantly changing its constitution from blood with bile, and with carbon and with urea, to blood without these elements? Crystalization, what is it? what but a limited mineral circulation. Analogy teems with corroborative proofs. We say without hesitancy, that the blood is alive, as much as a man, or a muscle, or a nerve; that it excites the heart, or acts on the heart, making it react:

there we have motion enough to carry on the circulation, assisted by other causes, not more known, but more acknowledged. How can we account for the motion in the veins being slower; for the actual passage of the blood from arteries to veins (if passing it can be called, when no pass is found) — for blushing; or, in fine, for that wonder, the circulation? so easily, as by supposing it to depend mainly on the motion of the *blood itself*, which has been overlooked, while everything *around and outside of it*, the coats of vessels, the action of muscles, the attraction of cavities of heart and lungs, the vis-a-tergo impulse of the ventricles, and the extreme vessels, that terra incognita of physiology, has in turn or in combination been summoned to this perpetual labor.

4. I suggested at the same time, November, 1830, that perhaps we had overlooked a function of the heart. It was acknowledged inadequate to the herculanean task of driving the mass of blood through the thousand channels and arteries of the frame; mayhap, if we consider the blood as moving of its own free will, and requiring only *direction* and *attraction*, by the mechanical apparatus of cavities of lungs and heart and propulsion of ventricles, and by the chemical, vital action of secreting organs, as skin, liver, &c, the labor imposed on the heart would not seem so great; and furthermore, if we consider the *heart as having another function*, deduced from the same general, but almost always overlooked law, above mentioned, viz., that laws of nature rule as much in as out of the body, under the paramount law of union or life; if we consider this function to be that of *impressing life or power of animal life on blood*, as well as giving direction to its motion, we get rid of much speculation and theory hitherto unsatisfactory. Pressure, friction and compression everywhere else in nature, do a great deal. Shall the pressure of the heat on the blood be inoperative? Out of the heart are the issues of life. That it has a function of creating something like *animal* life, or of giving life to the blood, in an animal sense, seems to be highly probable. Whether motion be made *more* vigorous, or what quality is impressed on the blood by the friction and compression, remains to be examined.

A few days since, T. lent me the Medical Gazette of 1832 and 33. In the number for August, 1832, I found an article, in which Dr Badham says, 'Among the forces of the circulation shall we even be authorized to insist *on expansive penetrating energy of the blood itself.* Vitality cannot be conceived without the power of motion.' This extract I made, intending to have inserted it above; but it will do here. May we not add, may not motion be a characteristic property of life and blood? its liquid representative: does the heart, and do all other muscles impart or *produce life and motion*, as well as continue it? Is not there something like an electrical apparatus in our various muscular organs, muscles and hearts? The effect of friction, pressure in and out of the body, would lead us to suppose so; that our limbs are more nearly a part of ourselves, of our life, than, in common parlance, we acknowledge. That not only do they move us about, but move us inwardly, constantly feeding the lamp of life, with vital air, or gas, or motion, or electricity.

To continue chatting. 5. Does it ever strike you, how much our manufacturers or owners of steam engines might increase public comfort and health, by the simple process of attaching vapor bath rooms to their waste steam-flues? Every puff of this wasted steam would make a bath for a limb, and several would fill a box capable of containing some dozen persons, sitting in the fashion of vapor baths in Russia and Turkey. On board steam-boats, on the Mississippi, they would be highly advantageous. The steam necessarily wasted there is enough for a perpetual bath, day and night. Whenever voyages on ocean are common in steam-ships, this will be thought of. The vapor bath which failed some time ago in Boston, was at too high a price. Thousands, especially of laborers, who get begrimmed and sooty in the week, would pay six or twelve cents a week for the privilege of using this steam, now wasted, and which might be afforded at this price. Luxury might have its champooners, its heating rooms and couches, and oil, and coffee. Labor would be better pleased with a simple soaking for six cents. I am confident it could be afforded at that price, wherever steam engines are at work. In Birmingham, it would suppress intemperance, for bathing has a wonderful effect in soothing the irritation of the stomach, and bowels, and head, and heart, and skin, on which grog selling thrives. We are temperate enough, but not too clean, in the United States; that is, we are the most temperate northern nation.

6. We all are anxious to promote the study of anatomy; cannot we do a little by giving to the first person who bequeaths his body to his friend, the doctor, or to the college, a pretty monument at Mount Auburn, on which the fact might be stated,

that the individual, though no way connected with medicine, (and therefore possessing the common feelings on the subject of subjects, viz., that, living or dead, citizens never should be subjects: ugh!) gave his body, in order that even after life he might be useful. Where would be the absurdity, (and oh! where will be the cash?) of erecting a pillar or slab to Mr Bentham, with the above fact mentioned on the inscription, at Mount Auburn? His merits are sufficiently ample, even for U. S. to give him a remembrancer; and where is the absurdity of a tomb-stone being placed, without a tomb under it? surely none. The best inscriptions say nothing about 'here lies;' (when they do, it is sometimes more correct than it appears). Monuments are for the memory of a man's name chiefly. How pleasant to read the names of those who formerly filled the front ranks of society in learning, power, family or fashion, and to find that the marble is their only descendant. For, in free countries, or at least in Great Britain and America, the noblest names die out in two or three generations. Monuments should teach great truths. They should remind the spectator of that which all forget in the bustle of business; of love, of charity, of hope — in one word, of humanity. Let Mount Auburn sustain the memories, and not the ashes merely, of men. Statues and monuments of Washington abound, but none marks his burial-place; yet all are as good and as holy and inspiring of thought and hope, as the tree-crowned turf that wraps his clay. It is the house and the land on which he lived familiar, and at home, which hallows Mount Vernon; his tomb is a small part of the moral sublimity which hallows the glorious bank of the Potomac.

ART. V. — DIETETICS.

THE possession of a receiving canal, or internal cavity of some kind, would appear to be exclusively characteristic of the animal creation; and Cuvier has distinctly stated that he knows of no animal unprovided with such an apparatus. In plants, on the contrary, which never contain any organ analogous to an internal stomach, the fluid supplies are absorbed by pores on their surfaces; and although some physiologists have questioned the propriety of so sweeping a generalization, minute investigation has shown, that so far from being real, the instances adduced by them in support of their objection are only apparent exceptions to this general law of nature. To enter upon this wide field of inquiry would be altogether foreign to the practical objects of the present article; nor can we undertake to examine the great diversity of means which Nature employs in the different orders of animals for the conversion of food into nourishment or into blood; we shall only observe that with such nicety are the processes of waste and supply adjusted, that whatever may be the quantity of food taken, or however the circumstances under which it is consumed may vary, the same individual, after having augmented in weight in proportion to the quantity of ingesta, will return in the space of twenty-four hours to nearly the same standard, provided the development of growth, or the existence of disordered function, does not interfere with the result. During this period, the food has been decomposed, and re-combined into compounds analogous to those which constitute the organs to which it is carried; and this would appear to take place, however remote its composition may be from that of the structures with which it is assimilated. It is, however, important to notice that the extent of the digestive cavity bears a relation to the nature of the food it is destined to receive, and by which the animal is designed to be nourished; for the more dissimilar its composition to that of the body it is to recruit, the longer must it remain in its alimentary cavity, and the more complicated must be the changes which are to perfect its transmutation. We thus find that carnivorous animals have generally less capacious and complicated organs than the herbivorous tribes; and that among the latter, those that feed upon seeds or fruits, with the exception of the *ruminantia*, have them less so than those which live upon leaves or the entire vegetable. The digestive canal of man is less capacious and complex than that of other mammalia which live entirely on flesh; whence we may infer that in a state of nature he may be capable of subsisting either on animal or vegetable food, and that he is not only qualified for every diversity, but for every admixture of it. Thus do we see that, while many savage tribes exist almost entirely on fruits and roots, others are as exclusively fed on raw animal flesh. The Hindoos, for instance, live upon rice; the Lombard peasants upon maize; the West Indian negroes fatten upon sugar, those of Senegal upon gum; while the Esquimaux gluts himself with the blubber of the seal. It would appear, however, that although man may subsist upon almost every variety of food, he cannot bear with impunity a sudden transition from one species to another. This circumstance was well exemplified in the eastern part of France in the year 1817, where the failure of the crops occasioned such a famine that the poor were compelled to feed upon whatever vegetable productions could be found: the consequences are stated to have been general anasarca, interruption of the menstrual discharge, a diminution of the ordinary number of conceptions by at least one half, and a permanent injury to the health. Even the sudden return to the use of barley-bread, after the continuance of this miserable regimen for three months, M. Gaspard informs us, was not unattended with danger. Spallenzani has satisfactorily shown that animals may be brought to live on food of the most opposite kind, provided the change from their usual diet be *gradually* accomplished, — such, for example, as a pigeon on flesh, an eagle on bread, &c. We know that in certain maritime districts of the East, horses are not unfrequently fed upon fish, while on the coast of Coromandel they are fattened upon balls of boiled flesh mixed with grain; and it is on record that a lamb kept on ship-board was fed with flesh until it refused the grass when afterwards turned into a meadow. Such facts have induced some physiologists, among whom we may mention the distinguished name of Dr Bostock, to consider it probable that all the anatomical varieties in the structure of the stomachs of different animals may be resolved into their *mechanical* effects upon the aliments submitted to their action; and that, whatever may be the chemical composition of the food, provided it be sufficiently comminuted or triturated, it will be equally acted upon by the gastric juice. We might here ask whether the nature of the digestive solvent itself may not at the same time vary with that of the food which excites its secretion, and whether in this way Nature, if not abruptly called upon, may not adapt her measures to her necessities?

It follows, then, that in our climate a diet of animal food cannot with safety be exclusively employed. It is too highly stimulant; the springs of life are urged on too fast; and disease is the necessary consequence. There may, nevertheless, exist certain states of the system which require such a stimulus, and there may also exist a condition of the digestive organs which renders them incapable of assimilating vegetable food; the physician, therefore, may occasionally confine his patient to an animal regimen with as much propriety as he would prescribe opium or any other powerful remedy. By a parity of reasoning, the exclusive use of vegetable food may be shown to be inconsistent with the acknowledged principles of dietetics, and to be incapable of conveying a nourishment sufficiently stimulating for the active exertions which belong to our present civilized condition. At the same time, it must be allowed that an adherence to a vegetable diet is usually productive of far less evil in sedentary habits than that which follows the use of an exclusively animal regimen.

It appears to us that authors have in general laid far too great stress upon the quality of the different species of food, and have condemned particular aliments for those effects which should be attributed to their quantity, and still more perhaps to the circumstances under which they were taken; their dietetic precepts have therefore frequently assumed the air of ascetic austerities, and they have thus represented the cure far more formidable than the disease. It has been sarcastically observed by a popular writer, more remarkable for the playfulness of his style than for the soundness of his logic, that there exists a more intimate connection between the doctrine of Tertullian and that of many a dietetic practitioner, than is generally supposed; that he is the ascetic intrenched in gallipots and blisters, preaching against beef and porter; terrifying his audience with fire and brimstone in one age, and in the other with gout and apoplexy. Now, while we must all deeply lament that the severity of this sarcasm should have been in some measure sanctioned by the theoretical absurdities of many of our writers, it is impossible that any reasonable person can seriously contend that numerous diseases do not arise from an improper management of diet; much less that a judicious regulation of it cannot be rendered subservient to their cure. To those, however, if such there be, who do question the importance of dietetics, we have only to observe that they may as well deny the utility of the medical art altogether, and assert that, in all disorders of function, Nature is sufficiently powerful to rectify and cure them, without the intervention of art. Unless this be granted, it is absurd to say that beneficial impressions may not be made as well through the medium of the *materia alimentaria* as through that of the *materia medica;* or, to borrow the language of Dr Arbuthnot, that what we take daily by *pounds* must not be, at least, as important as what we take seldom, and only by grains or tea-spoonsful.

The arrangements which different authors have proposed for the classification of alimentary substances will be found to vary according to the particular theory by which each may have been influenced. The chemist investigates the composition of an aliment, and arranges it either according to the ultimate elements of which he supposes it to consist, or according to the proximate principles which he considers to predominate in its composition. The naturalist, on the other hand, merely inquires to what division in his zoological system each article of diet belongs, and assigns to it a corresponding place in his arrangement; while the experienced practitioner is disposed to distribute the *nutrientia* in an order which answers to his notions of their relative nutritive value, or to the supposed facility with which they are dissolved in the stomach: thus, for example, as he finds from experience that the darkest colored flesh generally contains more nourishment, while it stimulates the system more powerfully than the whiter kinds, he distributes venison, beef, mutton, hare, &c, into one group, while lamb, veal, and the white meats, such as that of turkey, partridge, pheasant, chicken, &c, he considers as constituting a different class.

M. Majendie has distributed the nutrientia into nine classes, according to the predominance of one or more of those proximate principles, upon the presence of which modern science has assumed that the nutritive qualities of substances mainly depend.

The following is his arrangement:

I. Fibrinous aliments. — Comprehending the flesh and blood of various animals, especially such as have arrived at puberty; — venison, beef, mutton, hare.

II. Albuminous. — Eggs, &c.

III. Gelatinous. — The flesh of young animals; veal, chickens, calf's foot, certain fishes.

IV. Fatty and oily. — Animal fats, oils, butter, coco, &c; ducks, pork, geese, eels, &c.

V. Caseous. — The different kinds of milk, cheese, &c.

VI. Farinaceous. — Wheat, barley, oats, rice, rye, potato, sago, arrow-root, &c.

VII. Mucilaginous. — Carrots, turnips, asparagus, cabbage, &c.

VIII. Saccharine. — The different kinds of sugar, figs, dates, &c; carrots.

IX. Acidulous. — Oranges, apples, and other ascescent fruits.

We have said that a certain volume or bulk seems to be a necessary condition of wholesome food; — does not the capacity of the digestive organs sufficiently show that Nature never intended them for the reception of highly-concentrated food? This truth is still further exemplified by the very sparing manner in which she produces concentrated aliment; the saccharine matter of esculent fruits is generally blended with acidulous and mucilaginous ingredients, and the oleaginous matter is thus combined with the farinaceous, in seeds, kernels, and other substances of this description. The evils arising from the use of a too concentrated diet is well known to the physician; and, if we extend our observations to the domestic animals under our care, we shall derive further evidence of this important fact. A great number of our horses are fed with oats and beans, the nutriment of which is condensed into a much smaller space than it could generally be in natural provender; and these animals, when supported on such food, are consequently liable to various ailments originating from diseased action in the stomach, or from general plethora; in short, it need scarcely be remarked that horses so fed, and unnaturally confined in stables, require to be bled and purged to preserve their lives. The animal thus abused evidently suffers from acidity, as we find him frequently eating absorbent earths with avidity.* The extraordinary exertions often required of horses render it necessary that they should be better fed than when existing in a more natural state; and since they do not travel so well with a full stomach, it is also necessary to adopt the use of food in which the nutriment is reduced into the smallest compass. Post-horses and others, whose motion must be rapid, are therefore chiefly fed with corn alone; but what is the effect? — fermentation instead of digestion; as the intolerable odor which assails us in the stable, under such circumstances, and the decomposed glass of its windows from the sulphureted hydrogen acting upon the lead contained in it, sufficiently testify. Did it never occur to the physiologist, that had Nature intended animals to feed only upon the concentrated aliment of gramineous and leguminous vegetables, she would have supplied them with an apparatus by which they might separate the chaff and straw from the grain?

These remarks may be applied to man: we shall have occasion to show hereafter that the use of chocolate, butter, cream, sugar, and rich sauces, without a due admixture of bread, potatoes, and other less concentrated aliment, is invariably attended with disordered digestion. Unless the taste be vitiated, there exists an instinctive aversion to such food —

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* The habit of crib-biting may perhaps be attributed to such a source.

> ————————————‘ the prudent taste
> Rejects, like bane, such loathsome lusciousness.’

The Kamtschatdales are frequently compelled to live on fish-oil, but they judiciously form it into a paste with saw-dust, or the rasped fibres of indigenous plants.

Nutritiveness and digestibility of different kinds of food.— Before we attempt to appreciate the value of the different articles of the materia alimentaria, it will be necessary to caution the reader against the popular error of regarding the terms digestible and nutritive as synonymous and convertible. A substance may be highly nutritive and yet be digested with difficulty; that is to say, it may require all the powers of the digestive organs to convert it into chyle, and yet, when so converted, it may afford a principle of highly-restorative energy: this is the case with the fatty and oily aliments.* On the contrary, there are substances which apparently pass out of the stomach with sufficient readiness, but afford but little comparative support to the body.

Cookery. — By cookery, alimentary substances undergo a twofold change; their principles are *chemically* modified, and their textures *mechanically* changed. The extent and nature, however, of these changes will greatly depend upon the manner in which heat has been applied to them; and if we inquire into the culinary history of different countries, we shall trace its connexion with the fuel most accessible to them. This fact readily explains the prevalence of the peculiar species of cookery which distinguishes the French table, and which has no reference, as some have imagined, to the dietetic theory or superior refinement of the inhabitants.

By the operation of *boiling*, the principles not properly soluble are rendered softer, more pulpy, and, consequently, easier of digestion; but the meat, at the same time, is deprived of some of its nutritive properties, by the removal of a portion of its soluble constituents: the albumen and gelatine are also acted upon; the former being solidified, and the latter converted into a gelatinous substance. If, therefore, our meat be boiled too long or too fast, we shall obtain, where the albumen predominates, as in beef, a hard and indigestible mass, like an overboiled egg; or where the gelatin predominates,as in young meats, such as veal, a gelatinous substance equally injurious to the digestive organs. Young and viscid food, therefore, as veal, chickens, &c., is more wholesome when roasted than when boiled, and is easier digested. Dr Prout has very justly remarked, that the boiling temperature is too high for a great many of the processes of cooking, and that a lower temperature and a greater time, or a *species of infusion*, are better adapted for most of them. This is notorious with substances intended to be *stewed*, which, even in cookery-books, are directed to be *boiled slowly*, (that is, not at all,)and for a considersble time.* The ignorance and prejudice existing on these points is very great, and combated with difficulty; yet, when we take into account their importance, and how intimately they are connected with health, they will be found to deserve no small share of our attention. The loss, occasioned by boiling, partly depends upon the melting of the fat, but chiefly from the solution of the gelatine and osmazone; mutton generally loses about one-fifth, and beef about one-fourth, of its original weight. Boiling is particularly applicable to vegetables, rendering them more soluble in the stomach, and depriving them of a considerable quantity of *air*, so injurious to weak stomachs. But, even in this case, the operation may be carried to an injurious extent: thus potatoes are frequently boiled to the state of a dry, insipid powder, instead of being preserved in that state in which the parts of which they are composed are rendered soft and gelatinous, so as to retain their shape, and yet be very easily separated. On the other hand, the cabbage tribe and carrots are frequently not boiled long enough, in which state they are highly indigestible. In conducting this process, it is necessary to pay some attention to the quality of the water employed; thus, mutton boiled in hard water is more tender and juicy than when soft water is used; while vegetables, on the contrary, are rendered harder and less digestible when boiled in hard water.

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* It has been calculated that an ounce of fat meat affords nutriment equal to four ounces of lean.

By the process of *roasting*, the fibrine is corrugated, the albumen coagulated, the fat liquefied, and the water evaporated. As the operation proceeds, the surface becomes first brown, and then scorched, and the tendinous parts are rendered softer and gluey. Care should always be taken that the meat should not be *over-done*, nor ought it to be *under-dressed;* for although in this latter state it may contain more nutriment, yet it will be less digestible, on account of the density of its texture. This fact has been satisfactorily proved by the experiments of Spallanzani; and Mr Hunter observes, that '*boiled*, and *roasted*, and even *putrid* meat, is easier of digestion than that which is raw.' Animal matter loses more by roasting than by boiling; it has been stated above, that by this latter process, mutton loses one-fifth, and beef one-fourth; but by roasting, these meats lose about one-third of their weight. In roasting, the loss arises from the melting out of the fat, and the evaporation of the water; but the nutritious matter remains condensed in the cooked solid; whereas, in boiling, the gelatine is partly abstracted. Roasted are, therefore, more nutritive than boiled meats.*

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* Hence it is that beef-tea and mutton-tea are much more calculated for invalids than the broths of these meats.

The process of *frying*, is, perhaps, the most objectionable of all the culinary operations. The heat is applied through the medium of boiling oil, or fat, which is thus rendered empyreumatic, and therefore extremely liable to disagree with the stomach.

By *broiling*, the sudden browning or hardening of the surface prevents the evaporation of the juices of the meat, which imparts a peculiar tenderness to it. It is the form selected, as the most eligible, by those who seek to invigorate themselves by the art of *training*.

The peculiarity of the process of *baking* depends upon the substance being heated in a confined space, which does not permit the escape of the fumes arising from it; the meat is, therefore, from the retention of its juices, rendered more sapid and tender. But baked meats are not so easily digested, on account of the greater retention of their oils, which are, moreover, in an empyreumatic state. Such dishes accordingly require the stimulus of various condiments to increase the digesting powers of the stomach.

Articles of diet. — Were we to follow the steps of preceding writers on dietetics, we should present a catalogue of the nutrientia, and introduce, under each article, a history of its composition and qualities; but the utility of general principles is to abbreviate labor, and to class under distinct heads those remarks which were previously scattered and unconnected.

We have seen that the nutritive qualities of a substance depend upon its composition; but that its digestibility may be influenced by various mechanical causes. It is by such tests that we have now to examine the several classes of food, and to assign to the individual bodies which they embrace, their relative value as articles of diet.

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* It has been computed that, from the dissipation of the nutritive juices by boiling, one pound of *roasted* contains as much nourishment as two of boiled meat.

Milk, in its dietetic relations, may be considered as intermediate between animal and vegetable food; it is easily assimilated, and therefore affords a quick supply of aliment to the system, while it does not excite that degree of vascular action which is produced by other animal matters. Its nutritive powers may be increased by various additions, which have also, on some occasions, the effect of correcting its natural tendency to acidity, and on others, that of obviating the costiveness which it is liable to occasion; such objects are sometimes fulfilled by adding oatmeal gruel to it. In certain states of organic disease, we have found that milk, impregnated with the fatty matter of mutton suet, is a valuable article of diet; such a repast is best prepared by inserting the suet in a muslin bag, and then simmering it with the milk.

Before quitting this subject, it is necessary to observe that there exists some difference in the composition of the milk of different animals. That of the human subject is much thinner than cow's milk; is of a bluer color, and contains much more saccharine matter. It also yields a larger proportion of cream, but from which the butter cannot be separated by agitation. It deposits a part of its curd by mere repose. Asses' milk bears a stronger resemblance to human milk than to any other; it contains more sugar than that of the cow, and the proportion of curd is so considerable as even to separate on standing, before the milk becomes sour. Goat's milk yields a remarkably thick and unctuous cream, and abounds also in curd.

Fish has been generally considered as holding a middle rank between the flesh of warm-blooded animals and vegetable food. It is certainly less nutritive than mutton or beef; but the health and vigor of the inhabitants of fishing-towns evidently prove that it is sufficiently nourishing for all the purposes of active life: but in order to satisfy the appetite, a large quantity is requisite; and the appetite returns at shorter intervals than those which occur during a diet of meat. Nor does this species of food produce the same stimulus to the body; the pulse is not strengthened as after a repast of flesh; and that febrile excitement which attends the digestion of the more nutritive viands is not experienced. Hence fish affords a most valuable article of diet to invalids laboring under particular disorders; for it furnishes a chyle moderately nutritive, but, at the same time, not highly stimulant. From the nature of its texture, it does not require a laborious operation of the stomach; although it is sufficiently solid to rescue it from those objections which have been urged against liquid or gelatinous food. From the observations just offered upon the nutritive powers of fish, it must follow that such a diet is not calculated to restore power to habits debilitated by disease, and should never be directed under such circumstances, but from the conviction that the digestive powers are unable to convert stronger aliment into chyle. The jockeys who *waste themselves* at Newmarket in order to reduce their weight, are never allowed meat when fish can be obtained. On account of the low stimulant power of fish, it requires the assistance of condiment; and on this account salt appears to be an essential accompaniment.

It has been usual to attribute all the cutaneous affections which follow the liberal use of fish as depending upon the sympathy of the skin with the stomach. This, we believe, is in general the true explanation, since the effect is merely temporary; and when the process of digestion is finished, it departs. Its departure may even be hastened by the operation of an emetic removing the noxious aliment. At the same time the fact must not be overlooked, that the oily principle upon which depends the odor of certain fish, is absorbed from the alimentary canal, and carried into the blood; this is evident from the peculiar flavor of the flesh of certain birds who live upon fish. It is also well known that persons confined for any length of time to a diet of fish secrete a sweat of a rancid smell. It is not therefore improbable that certain cutaneous diseases may be produced, or at least aggravated, by such diet; and in hot climates this effect may be less questionable. The priests of Egypt may therefore have been prohibited from eating fish upon just principles, in order that the leprosy might be averted; and the great legislator of the Jews was, no doubt, influenced by some such belief, when he framed his celebrated prohibition.*

Birds. — There exists a great variety in the qualities of the food which is furnished by this class of animals, with regard to nourishment, stimulus, and digestibility: the whiter meat of domesticated birds, as the wings and breasts of chickens, contains less nutriment and is less digestible than that which is furnished by wild birds, as the partridge, &c ; but the former is, at the same time, less stimulant and heating than the latter. These are the circumstances which are to direct the medical practitioner in his opinion. No general rule for the choice of either species can be established; it must be determined by the particular condition of the patient, and the effect which the aliment is intended to produce. The same observation will apply to the flesh of quadrupeds ; that which is dark colored and contains a large proportion of fibrin, as venison, &c, is easily disposed of by the stomach, and a large quantity of highly-stimulating chyle is produced from it. The whiter meats are, on the contrary, detained longer in the stomach, and furnish a less stimulant chyle. The former, therefore, will be more easily digested by weak persons, while the latter will frequently run into a state of acetous fermentation ; but they may, nevertheless, be preferable on many occasions, inasmuch as they impart less stimulus to the general system. We see, therefore, the folly into which many popular writers have fallen of stating such or such an article as being wholesome or otherwise ; as the wholesomeness of an aliment must depend upon its fitness to produce the particular effect which the case in question may require. Van Swieten has justly said, 'to assert a thing to be wholesome, without a knowledge of the condition of the person for whom it is intended, is like a sailor pronouncing the wind to be fair, without knowing to what port the vessel is bound.

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* Leviticus xi. 9—12.

Farinaceous aliments. The flour of wheat contains three distinct substances ; a *mucilaginous saccharine matter*, *starch*, and a peculiar substance, possessing many of the properties of animal matter, termed *gluten*. It is to the quantity of this latter ingredient that wheat flour possesses so decided a superiority over that of barley, rye, or oats, for from these latter grains much less gluten can be extracted. It furnishes by far the best ingredient for making that important article of diet, *bread ;* although it may also be made of all the various sorts of grain, as well as of chesnuts, of several roots, and of the potatoe. We shall first describe the nature of wheaten bread, and then compare it with that produced from other substances. The first process for rendering farinaceous seeds esculent, is to grind them into powder between mill-stones ; the *meal* thus produced is purified from the husk of the seed, or *bran*, by the operation of sifting or *bolting ;* and it is then denominated *flour*.

This, when mixed with water or milk, undoubtedly possesses the power of nourishing the body; but in this raw state it would not be sufficiently digestible; it would clog the stomach, and oppose those actions which are essential to chymification. The application, however, of heat renders the compound more easy to masticate as well as to digest; whence we find in the earliest history a reference to some process instituted for the purpose of producing this change, although the discovery of the manufacture of bread, simple as it may appear to us, was probably the work of ages. It has been just stated that wheaten flour is the best adapted for making bread, that is to say, *loaf* bread; this depends upon the greater quantity of gluten which it contains, and which operates in a manner to be presently explained. The first stage of this process of *panification* consists in mixing the flour with water, in order to form a paste, the average proportion of which is two parts of the water to three of the flour; but this will necessarily vary with the age and quality of the flour; in general, the older and the better the flour, the greater will be the quantity of water required. This paste may be regarded as merely a viscid and elastic tissue of gluten, the interstices of which are filled with starch, albumen, and sugar. If, then, it be allowed to remain for some time, its ingredients gradually react upon each other, the gluten probably performing an important part; by its action on the sweet principle, a *fermentation* is established, and alcohol, carbonic acid, and lastly acetic acid, are evolved. If the paste be now baked, it forms a loaf full of *eyes* like our bread, but of a taste so sour and unpleasant that it cannot be eaten. If a portion of this old paste, or *leaven*, as it is called, be mixed with new-made paste, the fermentation commences more immediately, a quantity of carbonic acid is given off, but the gluten resists its disengagement, expands like a membrane, and forms a multitude of little cavities, which give lightness and sponginess to the mass. We easily, therefore, perceive why flour, deficient in the tenacity which gluten imparts to it, is incapable of making raised bread, notwithstanding the greatest activity may be given to the fermentative process by artificial additions. Where, however, *leaven* has been employed, the bread will be apt to be sour, in consequence of the great difficulty of so adjusting its proportion, that it shall not by its excess impart an unpleasant flavor, nor by its deficiency render the bread too compact and heavy. It is for such reasons that in this country we employ *barm;* a ferment which collects on the surface of fermenting beer. It appears that we are indebted to the ancient Gauls for this practice. In Paris it was introduced about the end of the seventeenth century; the Faculty of Medicine, however, declared it to be prejudicial to health, and it was long before the bakers could convince the public that bread baked with *barm* was superior to that of *leaven.* A great question arose among chemists as to the nature of this *barm* that could produce such effects, and elaborate analyses were made, and theories deduced from their results; but all these ingenious speculations fell to the ground, when it was found that *barm*, dried and made into balls, would answer every purpose; the bakers imported it in such a form from Picardy and Flanders, and when again moistened, it fermented bread as well as the recent substance. The presence, therefore, of carbonic acid, water, acetic acid, and alcohol, could not be essential, for these ingredients were separated by the process of its preparation. At length it was discovered, that gluten mixed with a vegetable acid, produced all the desired effects; and such is the nature of leaven, and such is the compound to which barm is indebted for its value as a panary ferment. After the dough has sufficiently fermented, and is properly raised, it is put into the oven previously heated, and allowed to remain till it is baked. The mean heat, as ascertained by Mr Tillet, is 448°. When the bread is removed, it will be found to have lost about one-fifth of its weight, owing to the evaporation of water; but this proportion will be varied by the occurrence of numerous circumstances which it is not easy to appreciate. Newly-baked bread has a peculiar odor as well as taste, which are lost by keeping: this shows that some peculiar substance must have been formed during the operation, the nature of which is not understood. Bread differs very completely from the flour of which it is made, for none of the ingredients of the latter can be discovered in it; it is much more miscible with water than dough: and on this circumstance its good qualities, most probably, in a great measure depend. It is not easy to explain the chemical changes which have taken place. It appears certain that a quantity of water, or its elements, is consolidated and combined with the flour; the gluten, too, would seem to form a union with the starch and water, and thus to give rise to a compound upon which the nutritive qualities of bread depend.

Unleavened bread consists of a mixture of meal and water, formed into a firm tough cake, made as thin as possible, to favor its drying, and sometimes with the addition of butter, to render it more soluble, friable and porous; but it renders it sourer, and more apt to produce acidity on the stomach. Of the unleavened sorts of bread, biscuit is by far the best; and in all cases where leavened or fermented bread does not agree, its use cannot be too strongly advocated.

The importance of bread, as an article of diet, will be easily deduced from the principles upon which the digestion of food in the stomach is explained. In addition to its nutritive qualities, it performs a mechanical duty of some importance. It serves to divide the food, and to impart a suitable bulk and consistence to it; it is, therefore, more necessary to conjoin it with articles containing much aliment in a small space, than where the food is both bulky and nutritive. The concentrated cookery of the French is rendered much more wholesome from the large quantity of bread which that people use at their meals. Bread should never be eaten new; in such a state, it swells like a sponge in the stomach, and proves very indigestible. Care should also be taken to obtain bread that has been duly baked. Unless all its parts are intimately mixed, and the fixed air expelled, it will be apt, in very small quantities to produce acescency and indigestion.

After stating the advantages of bread, it is necessary to make a few observations upon the evils which it may occasionally produce. In certain diseases it evidently produces a tendency to acidity; we have daily instances of this fact in children, in whom acidity and much alimentary disturbance follow its use. Shebbeare goes so far as to say that the rickets are so common in France only because the quantity of bread given to children is excessive; which, by its acidity, destroys the calcareous substance of the bones, and reduces them to a state of cartilage. This is mere idle speculation, which is in direct variance with the received opinions upon the subject. Where acidity occurs, the bread should be toasted, or well-prepared biscuit substituted.

Rice is the general aliment of the people of the East, with whom it answers the same purposes as bread does with us. As it is not much disposed either to acescency or fermentation in the stomach, it furnishes a wholesome aliment when mixed with other food; but if taken in large quantities by itself, from its low degree of stimulant properties, it is apt to remain for a length of time in the stomach: this effect is greatly increased by protracted boiling. Where the stomach is in a state of relaxation and debility, it ought not to be taken without condiment; it is, for this reason, found necessary in the warmer climates to conjoin it with a considerable quantity of warm spices. There formerly existed a prejudice against it use, from a belief that it had a tendency to produce blindness. It is scarcely necessary to state that such an idea has no foundation in truth. It is generally considered as astringent, and is, therefore, a popular remedy for diarrhœa; no astringent principle, however, has yet been discovered in its composition, and it is probable that it owes its virtues on such occasions to the mild and bland mucilage, with which it abounds, shielding the intestines from acrimonious humours.

There are various other aliments in domestic use, which owe their qualities to starch, such as *sago*, *tapioca*, *arrow-root*, &c. From the mucilaginous form in which they are usually administered to invalids, they are not so digestible as is generally supposed; but where the stomach rejects more substantial food, they are useful in themselves, as well as proper vehicles for the administration of vinous stimulants.

Esculent herbs. In this class are arranged the leaves and stalks of such vegetables as are eaten at table in the form of 'greens and salads.' Herbs eaten in a raw state are far less digestible than when cooked. During the heats of summer, they are refreshing, and are well calculated to assuage that febrile state which full meals of animal food are known to occasion. Of all these herbs, the *water-cress* is the most beneficial; for, by operating in some degree as an aromatic, it promotes digestion, and corrects that tendency to flatulency which other raw vegetables are apt to produce. According to Xenophon, the ancient Persians lived upon water-cresses, which they considered the most wholesome of vegetable productions. The *lettuce* is generally eaten with other herbs, in the form of a salad, dressed with oil and vinegar. Some difference of opinion has arisen with respect to the propriety of such additions. Gosse, of Geneva, found that vinegar retarded its solution in the stomach, and oil has been stated by others to render it less digestible. We have generally found such condiments useful, and that dressed lettuce is less likely to ferment in the stomach than that which is eaten without them. Oil is known to have such an effect in checking fermentation, and the vinegar is not found to promote it. The lettuce contains a narcotic* principle; and the effect of this is, in a great measure, obviated by a vegetable acid: those persons, therefore, who eat lettuce with a view to obtain such effects, ought to take it without vinegar. The digestibility of celery is greatly increased by maceration in vinegar. *Cucumbers* are by far the most unwholesome of all raw vegetables, and should be avoided as poison by dyspeptics.

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*We are told that Galen, in the decline of life, suffered much from morbid vigilance, until he had recourse to eating a lettuce every evening, which cured him.

The vegetables which require to be boiled are the different species and varieties of *colewort;* the value of which does not depend so much upon their nutritive quality as the tenderness of their texture. On this account, the cauliflower and brocoli are the species to be preferred, particularly the younger sprigs of the former. Of the kinds where the leaves only are employed, the Savoy is of a sweeter and more tender texture than the others, particularly its central and upper leaves. The cabbage tribe appear to contain a peculiar essential oil, whence the unpleasant odor of cabbage water; this matter is liable to produce offensive effects on the stomach: the vegetable should therefore be boiled in two successive waters, in order to free it entirely from the noxious ingredient, and at the same time to render its texture soft and digestible. *Asparagus* is quickly dissolved in the stomach, and, when sufficiently boiled, is not disposed to create flatulence or acidity; along with its mucilage it frequently contains some sweetness, which affords a proof of its nutritive quality. From the peculiar odor which it imparts to the urine of those who eat it, it appears to possess some active matter distinct from its mucilage; and it is generally considered diuretic. Asparagus is only wholesome when in an intermediate state between root and plant. When older than this, it is remarkably acrid.

Fruits. These are generally regarded as articles rather of luxury than of food; and were we to form our opinion of their value from their abuse, we should certainly be rather disposed to class them under the head of poisons than of aliments. Nothing can be more mischievous to the invalid than large quantities of apples, pears, and plums, in the form of dessert, after the stomach has been already loaded. But, when taken under other circumstances, they contribute to health, and appear to be providentially sent at a season when the body requires that cooling and antiseptic aliment which they are so well calculated to afford.

ART. V. — MARINE HOSPITAL.

United States Marine Hospital, Oct. 10th, 1833.

MESSRS EDITORS, — Having been informed that an impression exists in the minds of many of our profession, as well as in that of the public, that scarcely any other diseases but those arising from impure connection with females, are admitted into this institution ; and well knowing and regretting, that very few physicians visit the hospital, and consequently that they cannot inform themselves of the true state of cases treated of here, I have transmitted to you the following list of diseases, present this day in the house, for publication in your valuable Journal.

The names of the diseases are given in English, as far as practicable, that the non-professional reader may more readily recognise them.

Abscess of testicle, 1 ; bony tumor (exostosis), 1 ; Caries (of finger), 1 ; consumption, 3, coughing blood, 1 ; delirium tremens, and ulcer of cornea, 1 ; diarrhœa, chronic, 2 ; dysentery, acute, 1 ; dysentery, chronic, 2 ; erysipelas, 1 ; effusion of blood into scrotum, 1 ; fever, bilious remittent, 1 ; fever, continued, 6 ; fever, intermittent, 6 ; fever, intermittent, and ulcer of cornea, 1 ; fever, typhus, 1 ; fever, lung, or pleurisy, 2 ; fracture of fore arm, 2 ; fracture at elbow, 1 ; fracture, compound comminuted of foot, 1 ; inflammatory sore throat, 1 ; inflammation of testicle, 1 ; injury from a blow on the wrist, 1 ; injury from a cut on the hand, 1 ; impetigo scabida, 1 ; necrosis (dead bone), 1 ; palsy of one side of the body, 1 ; palsy of foot, 1 ; retention of urine, 1 ; rheumatism, acute, 1 ; rheumatism chronic, 3 ; sciatica, 1 ; scrofula, 1 ; scurvy, 1 ; ulcer, gangrenous, 1 ; ulcer, vitiated, 4 ; venereal disease, gonorrhea, 2 ; venereal disease, primary syphilis, 4 ; venereal disease, secondary syphilis, 1. — Total, 64 patients.

With much respect, I am
Your obedient servant,
C. H. STEDMAN,
Phys. and Surg. U. S. Marine Hospital.

COLLECTANEA.

OBSERVATIONS ON THE PRESENT STATE OF TOXICOLOGY,

With especial reference to a New and Simple Method of Detecting Metallic Poisons *By* JOHN CLENDINNING, A. M., M. D., &c, &c.

THE author (who, by the way, read his own paper from the rostrum) commenced by acknowledging himself indebted to the President for his encouragement and example in taking up the subject of poisons to lay before the meeting. But his (Dr C.'s) object specially was to recommend to the notice of his professional brethren an easy method of detecting metallic poisons through the agency of Voltaic electricity. He had been engaged for some time in the examination of this method, and had obtained results which he humbly presumed were deserving the attention of the public.

Dr Clendinning then begged to remind his auditors of the principal modes of testing metallic poisons which were in use at the present day, in order to contrast with them the simplicity and facility of the electro-chemical method. With regard to arsenic, the progress made of late years in improving the method of reduction has been very remarkable. In the year 1786, when Hahnemann's work, *Ueber die Arsenikvergiftung*, appeared, not less than eight or ten grains of the oxide were required for a successful experiment; but Black, Berzelius, Christison, and Orfila, have so perfected Hahnemann's, or rather Pyl's, method (that of deoxidating by heat applied to a retort), that, at the end of fifty years from its first trial, it has been rendered adequate to detect $\frac{1}{2000}$, or $\frac{1}{2500}$, of the minimum quantity required for its application at the commencement of that period.

Yet it is to be regretted that this method, in order to be successfully practised, often requires an amount of skill and address, and an apparatus of instruments and tests, which are not to be found in the possession of most persons who may be called upon to employ it. Dr C. proved this from the writings of Christison and Orfila, and especially referred to the case of the latter, an abstract of which was recently given in this Journal, under the title of Poisoning with Arsenic in Bread. 'In this case,' said Dr Clendinning, 'the great difficulty was to separate a minute portion of arsenic from a very large mass of extraneous material: successive sets of '*experts*' failed to procure any trace of the poison; and the eminent toxicologist himself only succeeded after several days of experiment, and numerous manipulations that required consummate skill and dexterity.'

The author next pointed out the various sources of fallacy attending the method of reduction in common use, and in doing so availed himself of Dr Mitchell's observations in a late No. of the American Journal. He then came directly to the electro-chemical method which it was his wish to recommend, as being so 'much simpler and easier than that just noticed, and therefore more nearly on a level with the average chemical skill to be met with in medical practitioners.'

The electro-chemical method is founded on the principles laid down by Sir Humphrey Davy in his celebrated Bakerian lecture, delivered in 1807. The best method of employing it was pointed out by Mr Edmund Davy, in the Philosophical Transactions for 1830; and it is on having verified the statements, and extended the application of the processes of this gentleman to experiments more properly medico-legal, that Dr C. rests his claim for permission to bring the subject before the public.

Upon making trial of Mr Davy's process, 'I was soon surprised,' said Dr C., 'at the facility with which I was enabled to procure satisfactory evidence of the presence of arsenic, even in the most complex mixtures. The mode of procedure which I have found most satisfactory is this: — A portion of the arsenicated substance is to be mixed in a platina crucible with a little muriatic acid; a piece of zinc foil or wire is then to be dipped into the mixture, and stirred about gently on the bottom for one or more minutes, when the platina will be found covered more or less extensively with a crust of metallic arsenic, of a dark grey color, if perfectly deoxidated, but usually of various shades of grey, purple or brown, from partial oxidation apparently of the internal surface. This metallic crust rises readily over the spirit lamp, in alliaceous vapors of white arsenic, which can easily be collected by covering the crucible with a piece of glass. The crust of oxide thus received on the lower surface of the glass, yields, though in very minute quantity, unequivocal indications of its nature, on being moistened with the ammoniated copper and silver solutions. . . .

'The following is a summary of a few recent experiments made according to this method: — 1. I mixed a small quantity of white arsenic with muriatic acid in a platina capsule, applied the zinc, and after stirring it about for a few minutes, poured away the acid fluid. I then washed and wiped the capsule, and held it covered with a piece of glass for a few seconds over the spirit lamp: the arsenic quickly rose in alliaceous white vapors, and settling almost wholly on the glass, was immediately tested with the silver and copper tests. The result was the formation of yellow and green arsenites of silver and copper. 2. I mixed a few drops of an aqueous solution of arsenic with muriatic acid in a capsule, applied the zinc as before, emptied the capsule, washed it with muriatic acid, and afterwards with water, rubbed and dried it, and applied the spirit flame. The sublimate received on glass yielded, with the silver and copper tests the arsenites, as before. 3. & 4. I treated some Scheele's green, not previously separated from the mother water, and some Fowler's solution, in like manner, and obtained like results. 5. I boiled three grains of arsenic with half a pint or eight ounces of porter down to syrupy consistence; I then concentrated still farther a portion of this by boiling it in a platina capsule: this last I treated with muriatic acid and zinc, as above, and having emptied, washed, rubbed, and dried, as in Exp. 2, sublimed the poison on glass: the sublimate readily yielded the arsenites. 6. I boiled three grains of arsenic with half a pint or eight ounces of pea-soup, strained through a linen cloth, and evaporated to one-fourth. I concentrated still farther half an ounce of the residuum in a capsule to about a drachm. From this residue, treated with acid and zinc, I procured a crust insoluble by cold muriatic acid, and yielding over the spirit flame a garlic smell, white vapors, and a sublimate, from which I obtained the arsenites, as above. 7. I mixed about three and a half grains of arsenic with eight ounces of water, to which I added about eight ounces of beef, bread, grease, potatoes, cream, cheese, and a little wine; I boiled the mixture for about half an hour, strained it through a linen cloth, and evaporated the residue to the consistence of honey: a portion of this, after having concentrated it further in a capsule, I treated with zinc and acid, and having sublimed it as before, obtained the same results as in former experiments.

'In various earlier experiments, of which I have no written memoranda, and in which I operated on milk, mock turtle soup, coffee, tea, &c, containing *but one-third* of the proportion of arsenic added to the porter, pea soup, and other mixtures just mentioned, I obtained with a little more care, indications that I considered satisfactory.'

After stating the foregoing experiments, the author proceeded to point out the superior advantages of the electro-chemical method in a medico-legal point of view; its simplicity, expeditiousness, and universality of application, render it, he thinks, much superior to the reduction process of Orfila and Christison.

'However heterogeneous the mixtures on which I operated, I have always succeeded, without any considerable delay or difficulty, provided there was not a large excess of fluid or much free nitro-muriatic acid, and provided the matter operated on was not very dense, and at the same time very sparingly imbued with poison. The first difficulty is easily removed by evaporating sufficiently; the second difficulty is removed by boiling dry, and gently torrefying, by which means the aqua regia is expelled; the third is in general readily overcome by diluting with strong muriatic acid, and boiling for some time. With these exceptions, I have found no difficulty in detecting arsenic in any instance, when present even in minute proportion. . . .

'With regard to expeditiousness, it greatly surpasses other methods: the process of concentrating by evaporation, which is often necessary, is the only considerable source of delay; but an hour or two is the most that it can possibly take. The next step, that of mechanical purification by straining, which, according to the plan of Orfila and Christison, requires 30 or 40 hours on an average, requires according to the present method but a few minutes; because, since the presence of organic matters in the strained liquor causes no additional delay or difficulty in the business of reduction, external pressure may be used to accelerate the passage of the liquor through the filter. This expedition I confess I consider of no small value. It greatly diminishes the chances of falsification, and thus favors the innocent, while it will operate against the guilty by diminishing in several ways the risk of failure of prosecutions.'

The conclusion of the paper contained remarks on the universality of the method, inasmuch as it is (so far as Dr C.'s experiments have yet gone) applicable to other metallic poisons as well those of arsenic; and with regard to delicacy, the author added, that he procured indications of the metal from a quantity of the oxide of arsenic scarcely appreciable by his balance, though it *breaks* with $\frac{1}{1000}$ grs. when loaded with 400 grs. On this, however, he was inclined to lay no great stress, as for practical purposes, and for satisfying the ends of justice, such extreme delicacy would hardly be available; and the method was abundantly satisfactory without it. — *Lond. Med. Gazette.*

DURATION OF FEVERS.

Of 309 cases of fever, there were twelve of which the duration could not be satisfactorily calculated. The remaining 297 cases terminated upon the days specified in the following table.

Days of the Fever.	Number of Cases ending on each day.	Days of the Fever.	Number of Cases ending on each day.
5	2	33	8
6	3	34	6
8	3	35	5
9	6	36	1
10	3	38	3
11	12	39	5
12	13	40	8
13	12	41	3
14	8	42	4
15	9	43	2
16	14	44	3
17	12	45	1
18	16	46	4
19	8	47	1
20	9	48	1
21	8	49	8
22	7	50	1
23	9	51	1
24	10	53	2
25	6	55	2
26	4	56	1
27	7	57	2
28	8	59	1
29	4	60	1
30	11	62	1
31	11	65	1
32	6		

Taking, then, the numbers exactly as they are represented in the table, it would appear that fewer cases terminated on the 14th and 21st day than on several days both prior and posterior to each. Out of two hundred and ninety-seven cases, eight only terminated on the 14th, and eight on the 21st.

For a fever to end before the 10th, or to be protracted beyond the 31st day, is unexpected and unusual. Thus a range of twenty-two days embraces the period within which the majority of cases come to their close; and, within this range, the table shows that there are twelve days (above half) more favorable to the termination of fever than either the 14th or 21st. Two equally favorable, and six only less so.

But let us allow a still larger latitude in seeking to know whether fevers are apt to come to their close *sometime about* the 14th or 21st day. Let us take a range of three days, by joining each of these with the day immediately before and the day immediately after it; and then, adding together the number of cases which ended on the 13th, 14th, and 15th, and on the 20th, 21st, and 22d, let us see what proportion the sum bears to the number ending on any other three days taken consecutively.

Thus on the 13th, 14th, and 15th days, taken together, twenty-nine cases terminated; and on the 20th, 21st, and 22d, taken together, twenty-four cases terminated. These are our standards of comparison. But on the three days preceding our first standard of comparison, viz. the 10th, 11th, and 12th, twenty-eight cases terminated; and on the three days succeeding it, viz. the 16th, 17th, and 18th, forty-two cases. Again, on the three days preceding our second standard of comparison, viz. the 17th, 18th, and 19th, thirtysix cases terminated; and on the three days succeeding it, viz. the 23d, 24th, and 25th, twenty-five cases.

Finally, then, from the event of these two hundred and ninety-seven cases, no proof can be derived that there is any law of fevers inclining them to terminate upon one particular day more than another, or even *some time about* a particular day, whether it be the 14th or 21st, or any other day.

I hope you do not think me presumptuous for thus calling in question a much-received opinion respecting the duration of fevers; and venturing to suspect that medical men in general have not been quite aware how much evidence is required to substantiate its truth, and have thus been content to let it pass.

The result of my experience points to the conclusion, that the duration of fevers is indefinite. But the cases which furnish the materials of my induction occurred between 1826 and 1832 at St Bartholomew's Hospital. So that mine is the experience of a particular time and a particular place; and I do not claim for it more than it is worth.

There are varieties found in many diseases which bear the same name, and in none more than in fevers. And although all fevers, wheresoever they are found, may have something in common which respects their essence, yet the fevers of different times and places admit of so great varieties that no physician, drawing from his own experience alone, (however great it may be) must venture to speak of what fever is *absolutely*.

From the forms of fever which passed under my own observation at St Bartholomew's Hospital between 1826 and 1832, I cannot fix upon any as a specimen of the fever of all places; not of the fever which occurred at the same time in Europe, or even in other parts of England. But perhaps I may safely rely upon my own experience of what occurred at our largest hospital during this period for furnishing me with just examples of the fever simultaneously prevalent in London, and may be allowed confidently to affirm that during the last seven years, no such thing has occurred in London as a fourteen or twenty day fever, or a fever of any definite duration whatever.

But is it not among the characteristics of certain epidemics that they have a definite duration? Not to recede from the particulars of my own observation, I should say that at one time the prevalent fever may be generally long; at another it may be generally short. This is all I know. But, upon the whole, I should always prefer to calculate the probable duration of every particular case by its own circumstances, by things contained in itself, rather than according to any supposed law of the epidemic. —*Dr Latham.*

BLEEDING IN THE PAROXYSMS OF HEADACHE.

In the case of a young lady, seen by Drs Cheyne, Marsh, Stokes and myself, the paroxysms of headache were most distressing, and had baffled for years all remedies; nor were they at all relieved by the means recommended at our consultation. But after repeated attacks, Dr Stokes bled her *ad deliquium*, during a violent paroxysm, with immediate relief, and it is very remarkable that the relief was permanent, for she has not since been attacked. — *Dr Graves. Dub. Journ.*

DANGER OF VENESECTION IN WEAK EPILEPTIC FEMALES.

It may be laid down as a rule of practice, that in debilitated nervous, and hysterical females, however violent the congestion of an organ may be, the attempt at curing this congestion by either general or topical bleeding is injudicious. The truth of this is strongly confirmed in cases of epilepsy in weak and nervous habits, though no disease is more clearly dependent on cerebral congestion than the epileptic fit. Thus, a lady concerning whom I was consulted by Mr Kirby, had been liable every third or fourth month to a violent fit of epilepsy for the last twentyfive years. About a year ago, a young practitioner imprudently used the lancet, and she has since been subject to an attack every third or fourth week. — *Dr Graves. Dub. Journ.*

STAINS OF THE CORNEA.

For some years the patients laboring under this affection have come to be treated here with the same eagerness with which Desault was formerly consulted for chronic ophthalmia, whether of a scrofulous or any other character. The treatment I employ is the following: —If the irritation be acute, I bleed;

if it be middling, I apply leeches to the temples; one or two mild purgatives are then administered at an interval of two or three days. A seton is immediately passed behind the neck. This seton, made of threads of cotton united cylindrically, appears to me to be preferable to the flattened and sharp-edged substances hitherto employed, because it occasions less pain in dressing, and withal, determines a sufficient degree of irritation. To these different means I add the insufflation, morning and evening, between the eyelids, of a pinch of the following powder: —

> *Prepared tutty; sugar candy; calomel prepared in vapor;* a a equal parts.

The patients should neither wash nor wipe their eyes after the insufflation. When there exists no disease of the eyelids, no inflammation, no irritation of the conjunctiva, the insufflation of this powder usually suffices to resolve the stains. Such as are slight and recent are completely dissipated in some few weeks. The oldest, thickest, and largest, are habitually so in a month or six weeks, and stains have been seen, which occupied almost the entire of the cornea, which covered the whole pupil, and perfectly intercepted the passage of light into each eye, that were, nevertheless entirely dispersed in some months' treatment. — *Dupuytren's Lecture.*

PIGMIES AND GIANTS.

Under 'anomalies of volume,' M. Saint-Hilaire has assembled several curious particulars relating to dwarfs. The word dwarf, in scientific language, should be confined to individuals whose diminished stature depends not on disease or malformation, but in a diminished volume of all the parts of the body. Among the most celebrated of this class of beings were Jeffery Hudson (well known to all our English readers through Sir Walter Scott's 'Peveril of the Peak'), Borwilaski and Nicholas Ferry, surnamed Bebé. The latter was born in 1741, at Plaines; both his father and mother were of ordinary stature. Even the birth of this little being had something extraordinary. He came into the world two months before his time; weighed but then a pound; was brought to church in a plate, and cradled in a wooden shoe (*sabot*). When five years old, the little Bebé was examined by the physician to the Duchess of Lovrain; at that period he weighed nine pounds; was about twentytwo inches high, and was completely formed like a young man of twenty years. Bebé now passed into the service of Stanislaus, king of Poland, and became the favorite of that unfortunate monarch;

he was gay, well-made, and agreeable, but his intelligence always remained extremely low. When fifteen years of age, the dwarf had attained the height of twentynine inches, and seemed to arrive at the period of puberty; but a sudden change was operated in his constitution; his countenance became dull, and lost its vivacity; his health rapidly declined, and Bebè died at the age of twentytwo, bearing every mark of a premature old age. There is a waxen statue of this celebrated dwarf in the anatomical museum of the Ecole de Médecine at Paris, dressed in the clothes which Bebé wore at the court of Poland. The figure is complete, and the face perfectly well formed. The skeleton is preserved in the museum of natural history. An examination of the skull shows a complete ossification of the bones, and obliteration of many of the sutures. The principal dimensions of the skeleton are as follows:—height two feet nine inches six lines; length of arm one foot two inches nine lines; ditto, of lower extremity, one foot four inches six lines; length of humerus seven inches three lines; length of femur nine inches.

Borwilaski, like Bebé, was born of parents above the ordinary stature; but, unlike the Polish dwarf, he was endowed with a considerable share of intellect; he spoke German and French with fluency, and his answers were said to evince some smartness, if not wit. This dwarf was twentyeight inches high. When aged twentytwo, Borwaliska took unto himself a wife, who presented him with several well-made and large children. His paternity indeed was doubted by many, but the little man received the pleasantries of his friends with a good grace.

From these, and many other cases detailed by the author, we see how much dwarfs may vary, both in their physical and moral conditions; some pass rapidly from infancy to old age; others enjoy good health to an advanced period; the greater part are simple, almost idiotic; yet a few, like Borwaliski, have shown considerable intelligence. Dwarfs are usually born at the full period of gestation, and of ordinary-sized parents; they are almost universally impotent, either with individuals of the usual size, or with one another, as is fully proved by the experiments of Catharine de Medicis, and the Electress of Brandenburgh. The pleasures of love quickly destroy them.

The history of giants is somewhat more remarkable than that of dwarfs. The proofs of their existence in olden times, may be reduced to three heads. 1st. The discovery of certain bones of an enormous magnitude. 2nd. The testimony of the Bible. 3rd. That of several profane authors. The immense progress which we have made in later years in zoology, and history of fossils, enables, us to appreciate the first set of proofs at their full value; in fact the pretended bones of giants are nothing but the fossil remains of the elephant, the mastodon, &c. Besides, if we examine with any care the history of these discoveries, the incongruities become manifest. One of the most celebrated giants of this kind, was the one discovered in Sicily in the fourteenth century. It was at once decided that this was no less a personage than Polyphemus, and that he must have been at least 300 feet high; a respectable stature certainly, which might satisfy the most enthusiastic amateur in giants. Unfortunately, it was afterwards proved that the cave in which the pretended giant of 300 feet was found, holding in his hand, a mast of a ship as a walking cane, was itself only 30 feet high. Polyphemus may serve as a type for the history of other giants said to be found in different quarters of Europe. As to the proofs taken from the Bible, they admit of an easy explanation. The stature of Goliah was said to be six cubits and a span, which, from the best calculations, make about nine feet; if we consider that the cap of Goliah was included in this measurement, his height may be estimated at eight or eight feet and a half, a stature consistent with the limits which observation has placed to the human race. In fact, the most authentic accounts which we possess, relating to individuals of extraordinary stature, establish the limit at about eight feet and a half, or nine feet. The analogy between giants and dwarfs is striking in more than one respect; their intellect is usually very moderate, and, like dwarfs, they are impotent, or readily weakened by venereal pleasures; they also die at an early age.

After a lengthened examination of hereditary varieties of stature in different species of animals, the author examines and establishes the principal variations of stature in the human race. We have already seen that the limits established by observation are confined between twentyeight or thirty inches for dwarfs, and eight feet and a half, or nine, for giants; but in addition to these anomalies, there are certain countries in which the inhabitants are naturally either above or below the ordinary standard; the inhabitants of the most southern parts of America, the Esquimaux and Boschimans, are familiar examples of an elevated or diminished standard. In these hereditary differences of stature, we find an easy solution of the pretended stories of pigmies and giants; for we can readily conceive, that in a country where the average height of the male inhabitants is more than six feet, many examples of extraordinary stature will present themselves, and *vice versa*. The following table will serve to indicate the most remarkable of those variations: — *Lancet.*

Nations	Stature. Feet.	Inches	Designation of the Race.	Authors from whose Accounts the Table has been drawn up.
Patagonians . . .	6	1	American.	La Girandis — Malaspina.
New Zealanders	5	7	Malay.	Lesson.
Otaheite Chiefs .	5	6	Ditto.	Lesson.
New Hollanders	4	11	Ethiopian.	Quoy and Gaimard.
Kamtschatdans .	4	10	Mongolian.	Laperouse.
Esquimaux . . .	4	0	Ditto.	Ditto.
Boschimans . . .	4	0	Ethiopian.	Barrow — Peron.

HEADACHES IN YOUNG WOMEN.

Dr Graves observes that when connected with an obviously plethoric state of body, the treatment is sufficiently well understood — early hours, spare diet, active exercise, rather powerful purgatives. When there is much determination of blood to the head, leeches may be applied behind the ears, or to the feet, and the bleeding in the *latter instance should be kept up* by the pediluvium. Dr G. speaks very highly in favor of the latter method, and illustrates its good effects, by relating the case of an old gentleman, who was subject to attacks of violent palpitations, accompanied by the feeling of approaching dissolution. Dr G. saw him in a very severe paroxysm, in which the ordinary means had failed. A pediluvium as hot as it could possibly be borne afforded speedy and decisive relief. In the habitual headaches of robust and plethoric young women, it is sometimes necessary to have recourse to general blood-letting when the paroxysm is violent. A young lady had been subject for years to attacks of the most distressing severity, which baffled all internal remedies and external applications. At length Dr Stokes bled her ad deliquium, during a violent paroxysm, with immediate, and what is more, with permanent relief, for she has had no subsequent attack.

Dr Graves makes some remarks on the treatment of amenorrhœa, which are practically so judicious that we feel anxious to impress them on the minds of our readers.

‘The periodicity of this function can still be traced, even in cases where suppression has continued for a great length of time by means of the menstrual *molimina*, which occurs at stated intervals; endeavoring to bring on the discharge, therefore, we must be guided as to the time the attempt should be made by an observance of the period at which these *molimina* occur; for a few days before that time, our efforts to produce a determination of blood to the uterus may be judiciously employed, and if they fail, the attempt should be abandoned, until a few days before the next menstrual period: of course I speak not here of the general constitutional treatment, for this must be constantly persevered in, one of the chief means of bringing back this evacuation being the restoration of the health to the natural standard; in some this is to be effected by tonic, and in others by an opposite mode of general treatment.

But of this it is quite unnecessary to speak, as all practitioners are acquainted with the essential difference between the general modes of management required according to the constitution and habits of the patient. What I wish to impress on the minds of the junior members of the profession is, that all those remedies which actually determine to the uterus or its neighborhood, as pediluvia, stuping of the genitals, leeches to the inside of the thighs near the labia, aloes and other stimulating purgatives, &c, &c, should be only used at the times already spoken of. To use them at any other period, either after the molimina have disappeared, or during the intervals between them, tends in most cases still further to derange nature, by determining to the uterus at an unseasonable time, when there is no natural tendency to that organ; under such circumstances the very same means will frequently fail and prove injurious, which, applied so as to coincide with the time of the natural effort, would have been successful. To illustrate these principles by an example: we are consulted in the case of a young woman, affected with various hysterical symptoms for several months, and during that period more than usually subject to headache, langour, loss of spirits, diminution of appetite, and irregularity, usually constipation of bowels; she is pale, and complains of various pains and uneasy sensations, and has not menstruated since the accession of these symptoms; here it is evident that the constitutional treatment must be strengthening and tonic; the practitioner will therefore recommend regular hours, much gestation in the open air, a nutritious diet, tepid, and afterwards cold shower baths; he will regulate the bowels and afterwards prescribe a course of tonic medicines, chalybeates, preparations of bark, strychnine, &c, &c; he will likewise inquire carefully when the last period happened, and when and how often since that occurrence menstrual molimina were observed. He thus ascertains when they should again recur, and contents himself with enforcing the constitutional treatment, until about six days before the calculated time. Then he lays aside the other medicines, and has recourse to those means which determine to the uterus. Two leeches are applied to the inside of the thigh near the labium, every second night, until they have been three times applied. The bleeding is encouraged by stuping. On the intermediate days the bowels must be actively moved by aloetic pills, and for three nights before and after the day of the molimina,* hot pediluvia, rendered stimulating by mustard seed, may be used; during the same time also frictions with stimulating liniments should be applied to the feet and legs every morning, and spirits of turpentine or tincture of cantharides may be exhibited internally, while the necessity of more active exercise is inculcated. The intention of the leeching is to produce a tendency of blood to the part, which tendency is increased by each repetition of the application, and is still further augmented by these applications being made only about the time that the menstrual discharge should have taken place. *If these means fail, they must for the moment be laid aside, and the constitutional treatment must be again resumed until the same number of days before the next period, when the list of remedies above spoken of must be again tried,* and in few cases indeed shall we find them to fail.'

We can add our testimony to that of Dr Graves, respecting the superior efficacy of this over the routine administration of emmenagogues, tonics, and so forth, without regard to the periods that nature has assigned, and the indications of them that she offers. Dr Graves omits mentioning the hip-bath, which we have found preferable to the pediluvium. Dr G. observes that two leeches are a fit number for weakly individuals, but in the plethoric, four or six may be used at a time with advantage.—*Medico-Chir. Review.*

DRY CUPPING.

Mr Robertson, an intelligent surgeon residing in High Holborn, has published some interesting cases of pain depending on various causes relieved by dry cupping. The cases in which he would recommend it are those in which the pain is dull though severe, deep-seated, chronic, not much increased by pressure, or has refused to yield to ordinary means. The way in which he generally employs the remedy is to throw a very minute bit of paper touched with ether or turpentine, lighted, into a large glass or tumbler, and press it down in the usual way. This is a very effectual and a very convenient method of obtaining the requisite exhaustion, and is attainable when the regular cupping apparatus is not. — *Lancet.*

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* 'By *molimina* are meant pains in the loins, thighs, and hypogastric region, flushings, colicky pains of the abdomen, increase of headache, and a general feeling of malaise, which are familiarly known among females as indicating a *constitutional effort.*'

EXTIRPATION OF A TUMOR FROM THE NECK. DEATH FROM THE ADMISSION OF AIR INTO A VEIN.

A young girl was admitted into the La Charité for the purpose of having a large tumor, situated on the side of the neck, removed. M. Roux was the operator. The dissection was tedious and difficult; and when nearly completed suddenly a peculiar whizzing sound was heard, as of air rushing through a small aperture into a vacuum — the patient uttered a feeble cry, and became convulsed; the respirations were deep and only at long intervals, a mucous râle could be heard distinctly in the chest, the pulse was hurried and very weak, and speedily all the appearances of death ensued. Frictions on the epigastrium, tickling the nostrils and dashing cold water on the face, gradually resuscitated the patient; the speech at first was confused and stammering, and a quantity of mucus and saliva dribbled from the mouth. The operation was completed by passing a ligature round the base of the tumor. For the five following days no bad symptoms appeared; on the sixth, the mass of the tumor was in a state of sloughing and emitted an abominable stench, — it was therefore removed. On the next morning the patient became comatose and died.

Dissection. By carefully examining the situation of the tumor, it was ascertained that the sheath containing the carotid artery, jugular vein and par vagum, had been opened during the operation, and that the vein had been divided across; the lower or sternal end lay gaping; and on introducing a probe it passed readily down to the junction with the subclavian. The bronchial tubes were filled with a frothy mucus, and there were several emphysematous points under the pulmonary pleura. The cavities of the heart were found quite empty; when the aorta was pricked at different parts of its course, bubbles of air mixed with a bloody serum oozed out; even the same was observed in the common iliacs, although in a less degree. Nothing abnormal was found in any of the veins; and no air could be discovered in any of the cerebral vessels.

Remarks. Bichat was of opinion that in such cases as the preceding, the death is attributable to the paralyzing effects of the contact of air on the brain. Nystem and Magendie have ascribed it to the forcible and permanent dilatation of the heart. M. Leroy d'Etiolles, in his memoir on asphyxia, endeavors to prove that it may be occasioned in three different ways, either by the deleterious agency of the air on the cerebral substance; or by the pulmonary emphysema; or lastly, by the disturbance of the actions of the heart. The extreme rapidity of the death makes it probable, that the heart is the organ primarily affected; in some cases the patient has died in a moment; the centre of the circulation suddenly ceasing to act. — *Journ. Hebdomadaire.*

USE OF TURPENTINE IN SCIATIC NEURALGIAS.

M. Martinet has adduced a long catalogue of cases to show the superior efficacy of small doses of the oil of turpentine. To prevent its acrid effects on the stomach and bowels, he recommends that it be always blended with some corrective excipient, such as honey, gum-arabic, magnesia, yolk of egg, &c, and the dose ordered is a drachm or two in divided doses, daily. As a matter of course a correct diagnosis must have been previously made, in order that we may be satisfied that there is no inflammation or organic disease of the nerves; under such circumstances we cannot reasonably expect a cure from the turpentine alone. If the drug vomits or purges to excess, opium should be added. In 40 cases of acute neuralgia, 34 were cured, 5 relieved, and one was not benefited. In 31 chronic cases, 24 were cured, 3 were relieved, and 4 experienced no advantage: 33 of the cases treated with the turpentine had resisted other remedies previously employed. The period generally required for the cure was from 5 to 12 days; in a few cases the medicine must be continued longer. Out of 58 cases 48 were sciatic, 3 crural, 4 brachial, and 3 facial neuralgias, — *Bull. de Therap.*

EFFICACY OF IRON AGAINST CHLOROTIC GASTRALGIA.

MM. Bonnet and Trousseau have reported several interesting cases, in which severe and obstinate pains in the stomach, occurring in females affected with amenorrhœa, leucorrhœa, or similar uterine affections, have yielded to the judicious employment of subcarbonate of iron, after most other means of treatment have failed. As the first case is a good illustrative specimen of the author's views, we shall give an abridged statement of it.

A. B. aged 21. She had enjoyed almost uninterrupted good health till her sixteenth year, when the catamenia first appeared. Since that period, she has been sometimes regular, sometimes not so, and has suffered much from headaches and general indisposition. In the beginning of 1829, she first experienced symptoms of gastralgia; the pain she compared to a weight, and sometimes to a pinching — it was always worse after eating, especially animal food. At first it was not very severe, and came on only at intervals of several days; but gradually it became worse, and returned almost every day or two. A physician prescribed leeching of the epigastrium and demulcent drinks — flesh, fruits, and vegetables were permitted, but wine and coffee interdicted. The distress was relieved for some time under this treatment, but, in the course of a month or so, it returned with aggravated violence; at last she suffered so much after every repast, and even after a single spoonful of food, that she almost starved herself. The physician considered that there was chronic gastritis, and even suspected cancer of the pylorus. The patient was exceedingly wasted, but retained her wonted cheerfulness. MM. Bonnet and Trousseau were consulted at this period; they inquired what description of food seemed to cause least pain; she told them boiled or stewed fruits, prunes, &c, but that all such articles had been inhibited by her medical attendant. She was now permitted to take them, and the following pills ordered: take of carbonate of iron, extract of succory, equal parts, and divide into pills of six grains each; the dose was at first only one night and morning, and gradually increased to eight or ten at a time. In 20 days she was almost completely cured. The iron was continued for two or three months. — *Archiv. Gener.*

NITRATE OF SILVER AND SPIRIT OF TURPENTINE IN HEADACHE.

The utility of both nitrate of silver and spirit of turpentine in such cases, was suggested to me by the good effects these medicines are found to produce in epilepsy, particularly when it occurs in persons of a nervous and delicate habit, and since I have employed them in hysterical determination to the head, I have been able to overcome these and similar affections, with much greater facility than formerly: of these, as has been already observed, the spirit of turpentine is best suited to the violent stages of the disorder, and may be given in doses of one or two drachms, to be repeated according to its effects. The best vehicle is cold water; some will bear and derive advantage from two or three doses of this medicine in a day, experiencing from its use a diminution of headache, and removal of flatulence, together with a moderate action of the bowels and kidneys. In some cases, as occurs occasionally in the treatment of epilepsy, by this medicine, it cannot he persevered in, in consequence of the violent dysuria and hæmaturia it occasions; slighter degrees of these affections should not, however, prevent our continuing it. When the paroxysm has abated, or when the spirit of turpentine has failed, the greatest benefit may be derived from the nitrate of silver continued for five or six days at a time, in doses of half a grain four times, or even six times a day. When the bowels are constipated there is no better combination than nitrate of silver with minute doses of compound colocynth pill, a formula, I believe first recommended in dyspepsia by Doctor James Johnson, of London, and which I have found invaluable, not merely in the headaches of hysterical young women, but in those of men, particularly the habitual stomach headache, to which delicate and literary men are so subject. —*Dr Graves.*

ON FIXING THE SCAPULA, IN DISLOCATIONS OF THE HUMERUS.

In almost all surgical works in which dislocations of the shoulder joint are treated of, various methods of reduction are proposed, according to the situation of the head of the bone. Dislocations of the shoulder, are, generally, easily reduced, but there is scarcely a surgeon, of any standing, who has not, in the course of his practice, met with cases which have occasioned him a great deal of trouble; and, I believe, it has sometimes happened that reduction has never been effected. In the course of thirty years' extensive practice, it has fallen to my lot to see a considerable number of these accidents, and I have been, and have seen other surgeons of great experience, foiled in the attempt, from the difficulty of fixing the scapula. Attention to this point renders the operation easy, as I have often witnessed, where violent and long continued efforts have entirely failed.

Sir Astley Cooper, in his excellent work on Dislocations, observes that this is the principal object to be attended to, without which all efforts would be ineffectual. The bandages commonly used for this purpose do not appear to me calculated to effect the object intended, but, on the contrary, add greatly and unnecessarily to the patient's sufferings, and do not prevent the scapula from being drawn forwards when the extension is made. For many years past I have practised a very simple method, which has never failed even in cases where the head of the bone has been thrown into the most unfavorable position. The method I adopt is as follows:—

Having seated the patient on a low chair or stool, firmly secured the body and fixed the pulley, I stand over him, and place the heel of my right hand on the acromion, leaning my weight on my hand. By this means the scapula is fixed, and rendered immovable; the extension is then made, and the reduction quickly completed.

I lately had a case in one of the most muscular men I ever saw, who, having met with a similar accident on a former occasion, dreaded, and with good reason, any attempt at reduction, and declared that he would allow one trial only to be made, and that if it did not succeed, he would be content to let the limb remain unreduced ; for that on the occasion alluded to he had submitted to the efforts of four surgeons and a physician, with sixteen assistants, for three days, and at length, after bleeding and other remedies, he became perfectly exhausted, when the bone was replaced.

Notwithstanding the head of the bone lay under the pectoral muscle, the whole operation, performed in the manner described, did not occupy two minutes. So satisfied, indeed, do I feel of the great importance of this point, that I do not hesitate to say that all dislocations of the shoulder may be speedily and easily reduced, by fixing the scapula in this manner, without any bandage whatever. — *Lancet.*

LITHOTRITY.

Passing over the definition of the operation, and the consideration of the various terms devised for its designation, we come to the historical part of the subject. Not to consider at all the instruments devised by Manget, F. de Hilden, Sanctorious, Franco, and Ambrose Pare, for crushing calculi in the urethra, it is at any rate ascertained that the Arab Albucasis has written in one of his works of ‘ an instrument called *maschabarebilia*, which is to be gently introduced into the bladder, to seize the stone, crush it, if it be soft, and extract it.’ In the last century, Hoin, of Dijon, related the case of a monk of Citeaux, who with a flexible sound and a steel rod with a forked extremity, succeeded in breaking a stone with which he was affected, by striking gently on the steel-rod with a hammer. The Calcutta papers also mentioned, in 1800, the case of Colonel Martin, who pulverized a stone in his own bladder by a metallic rod ending in a file which he introduced through a curved sound. The plan of M. Gruthuisen went further, however, than any other. He first demonstrated the possibility of introducing straight sounds even half an inch in diameter. He devised also an apparatus for breaking down the stone. The priority of the principle being thus shown to be of much older date than some of our lithotritists would fain persuade us, M. Velpeau next endeavors to ascertain who is the true proprietor of the method at present followed. The contention chiefly lies between MM. Civiale and Leroy of Etiolles. Percy, in his report to the Academie des Sciences in 1824, decided in favor of M. Civiale, while in 1825, 28, 31, the same body rewarded M. Leroy for the invention of the principal instruments,— amongst others, of the three branched *pince* now used by almost all lithotritists. The examination of the facts detailed subsequently, elucidates this subject rather more completely, as will be afterwards seen.

The methods adopted in lithotrity are twofold; in one straight instruments, in the other curved ones, are employed. M. Velpeau commences with the former.

Not to take into account the straight sounds found in Herculaneum and Portici, or those alluded to by Sanctorius and Albucasis, it is incontestable at least that Lieutaud before 1768, Santarelli in 1795, Montagut in 1810, Fournier in 1812, Gruthuisen in 1813, and MM. Larrey and Ribes, still earlier in their campaigns, described and used a straight sound for the purposes of ordinary catheterism. M. Amussat, by an amusing mistake, undertook in 1815 to demonstrate the possibility of the use of straight instruments on an anatomical principle altogether erroneous. Leroy and Civiale leaving Amussat to settle the controversy, availed themselves of the practical fact, and from this period dates the *practical* origin, of the rectilinear lithotrity, which may now be subdivided into four principal processes.

In *one*, that still preferred by Civiale, the calculus is simply perforated, then reduced to pieces, and then each piece successively extracted, not expelled by the urine. In this operation, the instruments used are — 1st, a large canula, which serves as a sheath to the rest; 2nd, a forceps or *pince* or *litholabe* (stone seizer) to lay hold of and fix the stone; 3rd, a borer, whether cylindrical and triple, or quadruple-pointed, or with a trepan-shaped head; 4th, accessory objects, such as rings, vices, bow, &c. Of these the most important is the *litholabe*, the form of which has much varied. The one usually employed at present is composed of three elastic branches, which can be drawn within the sheath, and which was first published by M. Leroy in April 1823, and subsequently by M. Civiale in June of the same year. Instead of three branches, Amussat proposes five; Merieu twelve; Tanchou ten; Recamier from five to ten. In Merieu's the branches have each an eye with a strong silk cord run through them in case of fracture. Ashmead, of the United States, has recently proposed one with four, the peculiar mechanism of which presents some advantages, but all such instruments with more than three branches, M. Velpeau deems open to the reproach of liability to break from insufficient strength. The *perforators* mounted have also been numerous, from the simplest cylinder to the trepan of Leroy, and the *fraise fenêtre* and *perce pierre* of Heurteloup. This ingenious instrument first serves as a simple perforator, and then by pushing a stalk, a lateral and toothed branch escapes from an opening in the side of the perforator, and increases the diameter of the first opening.

The second method is the *excavation* of the stone; for this M. Velpeau justly prefers the elastic double-branched fraise of Leroy, as improved by MM. Amussat and Charriere, an instrument with two elastic lateral wings, supported by a ring, and by two vertical props.

The third method is the concentric grinding of the stone devised by Merieu. This mode is more rapid than the preceding, permitting the reduction to powder of a voluminous stone in a single sitting; but the instrument employed is too weak to deserve confidence; it is liable to be so entangled, than the stone can neither be let go nor destroyed. M. Rigal attempted to modify the instrument by turning the stone itself on the perforator against the internal surface of the litholabe; but the plan seems to be completely impracticable.

The fourth and last method is that of *crushing*, which M. Heurteloup is considered by the author to have contributed most to improve. The instrument he uses is the *brise coque*, which can act with such power, that it breaks to pieces the hardest calculi. A still later improvement was made by Mr Henry, an English cutler in Paris, who has the vanity to call himself 'Sir Henry,' because Louis Philippe gave him the cross of the Legion of Honor, a decoration which all honest men are now ashamed to wear, since it shines on the bosom of every renegade in Paris. Mr Henry's modification of the brise coque is, however, so powerful, that it crushes flint pebbles. It has three branches, while M. Heurteloup's has but two, and it permits the grasping of a larger stone.

Reviewing all these methods, M. Velpeau states, that none deserves exclusive preference, perforation being sometimes advantageously combined with crushing, &c. When the stone is more than ten lines broad, perforation, excation, and crushing are required. With Mr Henry's instrument he thinks, however, that calculi an inch in diameter can be readily destroyed by crushing alone. This method, has, moreover, the advantage of great simplicity of instruments, requiring neither drills nor means of support. M. Velpeau thinks, in short, that this method deserves to be extensively tried, and that it will in all probability render lithotrity a more popular operation. — *Velpeau's Elements of Surgery.*

ON GONORRHŒAL OPHTHALMIA.

Gonorrhœal ophthalmia is frequently met with in children, and it is then generally called puriform, without any particular reference to its cause. It depends, in new-born infants, on direct inoculation which has taken place during parturition. It is always severe, and often leads to the loss of the eye. The treatment ought to be the same as for adults, and much care is required and much perseverance, because the pain produces a spasmodic contraction of the orbicular muscles, so that it is very difficult to introduce the remedies effectually.

Antiphlogistics, such as general and local bleeding, emollient lotions, and revulsives of every kind, are generally insufficient. Without neglecting these means, which are without doubt advantageous, it is necessary to have recourse to a local and special treatment, the others being in reality but accessaries. This treatment consists in the insufflation, by means of a small tube, of calomel, prepared in vapor, on the conjunctiva and palpebræ. This insufflation is to be repeated once or twice daily; and one or two drops of the liquid laudanum of Sydenham are to be introduced between the eyelids, but only in the evening.

Those who have attended the Clinique of the Hôtel Dieu for some years, have seen a considerable number of persons affected with gonorrhœal ophthalmia under treatment, but have never witnessed any attempt made to restore the urethral discharge. It is proper to remark, however, that as a too sudden cessation of such discharge may produce ophthalmia, so this is to be avoided. In most cases, however, the two proceed simultaneously, without apparently influencing each other as revulsives. The idea of antagonist affections, so seducing in theory, is rarely in accordance with facts. Inflammation of the skin frequently produces similar affections of the mucous membranes; those of the serous membranes produce, it may be, the successive development of one serous inflammation after another; so that analogous structures are, in fact, much more in accordance than those which are dissimilar.—*Dupuytren's Lectures.*

PRUSSIC ACID IN SEA-SICKNESS.

To the Editor of the Lancet—

Sir,—Having frequently witnessed the effect of prussic acid in allaying irritability of the stomach, not depending upon inflammation, I was induced to make a trial of it some months back during a voyage from London to Portsmouth, in cases of sea-sickness, but without producing any decided relief. I tried it in three cases, but did not find it, in the slightest degree, alleviate the sickness of the stomach. The individuals to whom I administered this medicine obstinately persisted in not taking more than two drops, and, perhaps, the failure was owing to the dose not being stronger. I had two opportunities of making the trial; the first time on board the *Sovereign*, an American packet, and the second time, on board the *Samuel Robertson.* I am, Sir, your obedient servant,

FORBES WINSLOW.

London, July 13th, 1833.

⁂ Sea-sickness is a very unpleasant but often a very beneficial occurrence, and in many cases might with more propriety be sought than avoided. It may not unfrequently be regarded as an excellent preliminary to a residence at the watering place which is the destination of the voyager.

PHLEGMONOUS ERYSIPELAS.

Richard Brackin, aged 42, a farrier, was admitted June 27th, into Henry the Eighth's ward, under the care of Mr Lawrence. His countenance pale and haggard; body thin and debilitated; pulse quick but without power; the whole of the integuments of the left foot and leg were affected with violent erysipelatous inflammation; tense and painful to the touch. He states that it commenced suddenly two days ago in the foot, and rapidly extended up the leg. He was ordered, from his weak state, port wine, eight ounces, with mutton chops.

28. Feels somewhat stronger; pulse 90, rather full; complains of much pain in the leg, which is more swollen, and assumes a brownish red appearance; sense of fluctuation on the dorsum of the foot. An incision was made eight inches in length in that situation, which was followed by a great discharge of pus mixed with blood, and gave immediate relief. Ordered a dose of house medicine. The limb to be enveloped in a poultice.

30. There is less pain and swelling; a considerable discharge takes place from the wound. Two smaller incisions were made on the anterior surface of the leg. Red lines are observed extending up the thigh in the course of the absorbents; the patient's strength improving. Continue the poultice.

July 3. Altogether much improved; leg paler, and less tumid and painful.

6. There is still much discharge; several small abscesses have been punctured near the ancle; the patient's health continues mending. The poultices to be continued. Nourishing diet.

10. Going on well.

PREPARATIONS OF ARSENIC,

Employed by M. Dupuytren in the Treatment of Malignant Ulcers.

The arsenical preparations in common use act as escharotics, and often leave behind them deformed cicatrices. M. Dupuytren believes that he is able to obviate these inconveniences by a combination of calomel and arsenic, in proportions different from those usually adopted. His formula is the following:—

℞ White Arsenic, or Arsenious Acid, 4 parts.
Calomel in powder, 96 ditto. M.

The arsenic may occasionally be increased to 5 or 6 parts in the 100. The ulcerations are well cleansed with poultices, in the first place; then, with a little piece of charpie dipped in the powder, a layer is put on, not exceeding a millimetre in thickness. The whole of the ulcer is covered, if it be but moderately large; but if considerable, it must be only half or quarter covered, according to its extent, taking care to apply the remedy on successive occasions to different parts of the sore.

M. Dupuytren also employs a paste, composed of a solution of arsenious acid in distilled water, with calomel added, and sufficient of powdered gum to give it the consistence of a paste. The proportion of arsenic in the paste is greater than that in the powder, being 6, 8, 10, or 12 hundredths of the acid, to 94, 92, 90, or 88 hundredths of the calomel respectively. It is applied with the same precautions as the powder.

The application of both the paste and powder produces, in the first instance, pain and inflammation; but these effects subside, and the remedy may be repeated eight or ten days after. Five or six applications generally cure an ulcerated surface. No eschar is formed during the process, the surface is merely modified without being cauterized, and in this consists the superiority of this method of treatment over that of Frère Côme and Rousselot.—*Gaz. des Hôp.*

HARE-LIP.

Of all the median fissures, the most remarkable and well-known is the *bec de lievre*, or hare-lip: this deformity, like the preceding, results from an arrest of development, and realizes in man, not the organization of the hare, as the name indicates, but the normal condition of certain fishes. To explain the formation of hare-lip, we must have recourse to embryology, from which we have hitherto derived so much assistance. Every anatomist of the present day knows that there exists in the embryo, as in the greater part of the mammalia, an intermaxillary bone;

but it may not be as well known that the illustrious poet Goethe was the first to draw public attention to this fact, by publishing in 1786 a paper, on the intermaxillary bone of man, entitled '*Dem menscher wie den thieren, ist ein Zwischenknochen der obern Kinnlade Zuzuschreiben.*'

If we conceive a fissure between the intermaxillary and upper jaw-bone, accompanied with a fissure of the lip, we have the simplest and most ordinary form of hare lip. When the fissure exists at one side only, the hare lip is single.

If it exists on both sides of the intermaxillary, we have the double hare-lip. This is the state of parts in the simplest form, without any complication ; for the co-existence of a fissure between the two maxillary and palatine bones, and the division of the velum palati, present an anomaly quite different and independent of hare-lip. At present it is enough to remark, that the latter is always a lateral fissure, while the former exists invariably on the medium line. It is a curious fact, that individuals affected with this deformity, are generally born of parents perfectly free from it. Hence we may conclude, that it is an anomaly rarely transmitted by generation from parent to child. The varieties of hare-lip are well known to all surgeons, and may, therefore, be omitted here. The division of the hare-lip is, as we have remarked, often accompanied by an incomplete junction of the intermaxillary to the maxillary bone, on one or both sides. Sometimes the suture is nearly complete ; the point of union is marked by a slight line between the external incisor and canine teeth. When the intermaxillary fissure is of greater extent, the teeth usually present irregularities, more or less remarkable, especially in the incisors, which are apt to grow outwards instead of descending vertically. In the greater part of these cases the lateral fissure constantly corresponds with the point between the external incisor and canine teeth, or in other words, to the line where the intermaxillary and maxillary bones should be united ; but in some cases of more rare occurrence, the fissure is found much nearer the median line, between the external and middle incisors. This requires an explanation which we find in the circumstance that the alveolar arch is formed by the union of several pieces primitively distinct. — *St Hilaire.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I. — CRITICAL NOTICE OF AN ARTICLE ON PHRENOLOGY, IN THE NORTH AMERICAN REVIEW.

WE have lately read an article on Phrenology in the last July number of the North American Review, with feelings of surprise and mortification. We were surprised to find a writer manifesting the grossest ignorance of a subject on which he undertook to inform others, and mortified that such deplorable trash should be sent to the public, through so respectable a channel as the North American Review. It is very much such an article as Reviewers were in the habit of concocting, twenty or thirty years ago, when Phrenology was regarded as a parcel of German hum-bug, or at best, a more plausible system of fortune-telling, and little more of it was known than what was gathered from newspaper reports. It was then very safe and very acceptable to stigmatize the new science as a mass of knavery, foolishness and imposture, for such was the vulgar notion, and such, very likely, it might have appeared to many an honest though superficial inquirer. But we had thought that the practice of calling names in scientific discussions, though a common resort of narrow minds, was long since abandoned, even by them, and after so much had been written on Phrenology, we certainly looked for more accurate notions in regard to its doctrines, than could have been expected, perhaps, many years ago. In this case, however, we reckoned without our host, who has revived the old method of dealing with phrenologists, and commenced his task by calling them knaves or fools, and ended it by making them out no better than infidels.* By most intelligent men, all this will be regarded as the hackneyed device of an unfair opponent, conscious of the weakness of his cause, but at the same time they may imagine that there is something substantial in the facts and observations of a professional nature, which they cannot perfectly understand, and be inclined to allow them a weight to which they are by no means entitled. It is our purpose at present to remove any such impressions, and this we shall do, by examining every passage containing anything of a professional nature, and from them convicting the writer of total ignorance or misconception of the most common facts in anatomy and principles of physiology, presuming, of course, if we succeed in this, that we shall have destroyed his credit for any phrenological knowledge whatever.

The walks of literature and science are infested by a pestilent set, who are in the habit of gathering up the most commonplace ideas, and after disfiguring them sufficiently to prevent their being recognised, pass them off upon people more ignorant, if possible, than themselves, as the fruit of strict and original observation. The unruffled complaisance with which the Reviewer parades his little stock of anatomical learning, and his ludicrous pertinacity in ringing the changes on the corpora dentata and corpora olivaria, the grey substance and the white substance, the medulla oblongata, and the swelling in the spinal marrow of the calf, and a few other such phrases, proclaim him, beyond all doubt, a member of this worthy class. The vague and slip-slop style of the article, renders it difficult to follow any particular order in the examination of its statements, and therefore we shall take them up pretty nearly as they occur to our recollection.

One passage, consisting of a page and three lines, is labelled, ‘ *Discoveries in Anatomy,*’ wherein the writer inquires into the value of the anatomical labors of the phrenologists, and with unexampled despatch, he comes to the conclusion, that he ‘ cannot be perfectly satisfied of the reality and undoubted claim of the great apostles of phrenology to more than one discovery, and that is the swelling in the spinal marrow of the calf.' As the whole pith of this very unique and conclusive inquiry is contained in the first sentence, we will quote it entire. 'We apprehend that these cannot be considered as of very clear and decided importance, so long as their reality is disputed by eminent anatomists; as it is admitted that they are of a nature of which few can judge, except those laborious amateurs, who have devoted a long period of time and attention to the subject; and so long as nobody professes to draw any practical inference from them, supposing phrenology to be out of the question.' On what grounds these extraordinary assertions are advanced, the writer has not seen fit to inform us, for in the next sentence he begins upon another topic. It is lamentable indeed to be obliged to contend with an opponent, the accuracy and extent of whose information, to to say nothing of his fairness, may be judged of, from this specimen; and nothing less than the desire of setting right unprofessional readers would have induced us to undertake the disagreeable duty. What then are these discoveries in anatomy whose reality is disputed by eminent anatomists? As, for the best reason in the world, we are left in the dark on this point, we will mention some of the principal discoveries of Gall and Spurzheim, and then see how the Reviewer's allegation is supported. According to these anatomists, the various bundles of nervous fibres of which the medulla oblongata is chiefly composed, are prolonged towards the surface of the brain, passing in their course, in whole or in part, through various ganglia, or masses of grey substance, as the corpora dentata, tuber annulare, optic couches, and corpora striata, from which they receive accessions of nervous fibres, and are finally expanded into the leaves of the cerebellum and convolutions of the cerebrum. This constitutes what they call the system of diverging fibres. And now we ask, by what eminent anatomist the reality of this discovery is disputed, — a discovery, which, though but one of the many triumphs of Gall and Spurzheim's genius, would alone have been sufficient to give their names a foremost place in the history of the science. We are justified in speaking of it in these terms, because it is the foundation of all subsequent discoveries in cerebral anatomy, which indeed could not have been made without it. We are not to be answered merely by the names of anatomists who are dead, and whose works have followed them, for in this manner we might place in doubt, even the circulation of the blood, which was universally disputed, when first announced by Harvey; but we wish to know by what anatomist of the *present* day, rightly entitled to the distinction of eminence, it is called in question. Tiedman, whose labors in this department of the science, are considered to be of the first importance, and who at the same time is one of the most able and thorough-going opponents of Gall and Spurzheim, willingly accords to them the merit of this discovery; and in this he is joined by Reil, Loder, Cuvier Desmoulins, Cloquet, Blainville, and the committee of the French Institute. In short, we believe that it is one of those settled points, that have entered into the common stock of anatomical knowledge, there to remain, till displaced by stronger force, than an anonymous assertion. Another of their discoveries is, that the nervous bundles in their passage through the tuber anulare, optic couches, and corpora striata, are reinforced by fresh filaments. We have taken some trouble to examine the writings of the eminent anatomists of the present day, as far as they are accessible to us, and have sought in vain for any denial or doubt of this important point; on the contrary, it is fully acquiesced in by those whose names we mentioned above. Gall and Spurzheim also demonstrated that the anterior pair of the tubercula quadrigemina are the true beds or ganglia of the optic nerves, and not the optic couches, as was previously believed; and also that the optic tubercles in birds, correspond to the anterior tubercula quadrigemina of mammifers, and not to the optic couches, according to the common opinion. They were the first to demonstrate the true origin of the facial nerve, and of the fifth and sixth pairs. We are curious to know by what anatomist — we will not insist on his eminence — these discoveries are called in question. The authority of the most distinguished names seems to the Reviewer 'light as a puff of empty air,' who certainly possesses in full measure (when it suits his purpose, we should add) the incredulity proper to the scientific inquirer. 'For our own part,' he manfully exclaims, 'we cannot be satisfied of the reality and undoubted claim of the great apostles of phrenology to more than one discovery, and that is the swelling in the spinal marrow of the calf!'* Why the worthy Reviewer, thus armed to the chin in his phrenology-proof mail of incredulity, should have admitted even this solitary discovery, is beyond our power of conjecture, though, from the singular phraseology in which it is announced, it may be fairly doubted whether he had the clearest notions in the world of what he was writing about.*

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* Such, we take to be the upshot of the following expression in the second sentence; ‘ the probability that any individual, at all acquainted with physiology or mental philosophy, can seriously believe it, is so small, that the question seems to be hardly worth arguing.’

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* It is strange, that with Serres to back him, he did not deny even this point, though probably, he was not aware what high authority he might have had on his side.

The next reason for considering the anatomical discoveries of the phrenologists, as of no 'very clear and decided importance,' viz. 'that they are of a nature of which few can judge, except those laborious amateurs, who have devoted a long period of time and attention to the subject,' has the merit of novelty in its favor, if nothing more ; and will, no doubt, serve with the unlearned in lieu of a better. It is a common impression, however, that all the most valuable discoveries in science have been achieved by those *only* 'who have devoted a long period of time and attention to the subject,' and can be verified, in many cases, only by means of similar devotion. *Important* scientific discoveries do not grow on bushes, as the Reviewer would have us believe, to be had merely for the trouble of plucking them. It is a great pity that this new doctrine could not have been promulgated one or two centuries ago, and thus spared our author the mortification of seeing such names as Newton and Laplace, consecrated to an immortal memory, for discoveries 'of which few can judge, except such laborious amateurs,' as Dr Bowditch, 'who have devoted a long period of time and attention to the subject.' The wiseacre, in the school-book, who denied the sphericity of the earth, because he saw with his own eyes that it was flat as a pancake, and predicated his belief in its immobility on the constant fulness of his mill-pond, was, after all, if we may trust the Reviewer, the proper man to decide on the importance of these people's discoveries. But to be serious, if it is possible to be serious, over such stupid nonsense, whoever imagined the nice dissection of the brain, or the minute anatomy of any other organ, to be other than a work requiring patience and practice in no ordinary degree. The tyro who finds the scalpel in his hand for the first time, may, very likely, make his way to the corpora striata, lay open the ventricles and expose the fornix ; yet if he is unsatisfied with the fruit of his first endeavors, and presses forward for something more valuable, he will soon verify the words of Vicq. D'Azyr, that good eyes and sharp knives are not sufficient to make an anatomist. The world, we believe, has been in the habit of considering it a proud and amiable distinction, to rank among those 'few' who are capable of judging in the great and difficult matters of science, because of that very difficulty that removes them from the common grasp and thus tends to deprive them of their practical importance. It has remained for us now to see for the first time, the fearless and indefatigable inquirer who pursues his researches in toil of body and of mind, stigmatized as a '*laborious amateur*,' and the very severity of his labors adduced as proof of the trivial importance of their object. But to address to the Reviewer a consideration, probably a little more within the range of his comprehension, we would ask him who has ever doubted the value of Hewson's and Cruickshank's labors on the absorbent system, because not one anatomist in a hundred dissects it out to anything like the extent they did? When this question is satisfactorily answered, it will be time enough to consider still farther his remarkable objection to Gall and Spurzheim's discoveries.

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* Gall and Spurzheim discovered that certain prominences in the spinal marrow of the calf correspond to each pair of nerves. How far this fact is indicated by the Reviewer's language, we leave our readers to determine for themselves.

The next reason urged by the Reviewer for considering the discoveries of the phrenologists in anatomy of little importance, is, that 'nobody professes to draw any practical inference from them, supposing phrenology to be out of the question.' What is meant, exactly, by 'practical inference,' the writer has left us no means of determining. If it refers to any theory of the intellectual operations, the statement is undoubtedly true; but even then, we cannot conceive by what logic it necessarily follows, that the anatomical discoveries above-mentioned, are destitute of any clear and decided importance. And if it be really a 'good and proper conclusion,' then the researches of Vicq. D'Azyr, Reil, Tiedman, Serres and others, are in the same predicament, and must equally come under the ban of this new apostle of utility. What evidently does follow from this remarkable assertion is, that the whole subject of minute cerebral anatomy, with all its discoveries, real or pretended, is a vain and unprofitable thing, inasmuch as it leads to 'no practical inferences.' The student is to be told, we presume, that he may observe the apparent origin of the nerves, actually feel the grit of the pineal gland, gratify his eyes with a sight of the nates and testes, the hippocampi major, and minor, thrust his fingers into the horns of the ventricles, and admire the arbor vitæ, because questions relative to these points may be asked him at his final examination; but by no means attempt to trace the relations of these different parts as they have been unfolded by the latest and ablest inquirers, nor manifest the slightest desire to concern his mind with things instead of appearances, for none but 'laborious amateurs' can succeed, and because the greatest success is profitless, since it leads to no 'practical inferences.' Alas! for poor Gall and Spurzheim, who spent their whole lives in search of that which, when found, leads to no 'practical inferences.' And alas! for that deluded body, the French Academy of Sciences, who threw away their money on M. Serres, for engaging in similar unprofitable researches.

Let us inquire for a moment how it happens, that the world has ever bestowed the meed of an enduring reputation on those intrepid minds that have brought hidden truths to light, in subjects confessedly of difficult investigation, without waiting to be satisfied of the exact measure of practical utility which they produce. The principle is, and the North American Review is the last place in which we should have thought of seeing it discarded, that *all* truth is good and useful, and that the discovery of the most insignificant is of incalculable value, inasmuch as it leads the way to the knowledge of higher and nobler truths. Undoubtedly, some truths are of less consequence than others, but are we to believe that in the anatomy of the brain, that organ which is so intimately connected with the unfathomable mysteries of man's intellectual nature, a single new fact can be discovered, a single new truth established that can be justly called unimportant, merely because it does not bear upon its face, in language plain as mother tongue, the whole secret of the noble mechanism? Are we to be told that the discovery of the relations between the various parts of a machine is of little use, because it does not also unfold to us the springs by which the machine is set in motion, and inform us of all the conditions on which its action depends? The results of Gall and Spurzheim's labors on the nervous system, whether they shall be proved true by the consenting voice of after times, or merely serve others as materials for the attainment of truth, will ever endure as monuments of extraordinary genius and industry, and place their names on the list of bold and original inquirers, who have advanced the progress of science by long and rapid strides. See what cerebral anatomy was when they commenced their labors, and compare it with what it now is, if you would gain an adequate idea of the value of their services in its cause. It is true, not an organ in the body had been more assiduously studied; and who does not know by painful experience, how it was studied? Every spot, however minute, where the least peculiarity of whatever kind could be observed, was pointed out and described, every eminence, cavity, and different combination of color and texture, were faithfully noticed, and the imagination was tasked to furnish the most whimsical appellations for the results of this profitless labor, till it seemed as if the very obscurity was made a pretext for multiplying endless distinctions and designations. While thus flattering themselves that they were really adding to their knowledge, they had merely accumulated a mass of idle names, and increased the obscurity and confusion which they imagined they had in some measure removed. They began with slicing down the brain from top to bottom, naming the different appearances thus brought to view, and illustrating them by beautiful drawings, until the base of the brain put an end to their slicing and naming and drawing, and they laid down the knife, satisfied that they had read every page of the book, though they had obtained but a glimmering of its meaning. Of the relations, mode of developement, and uses of the several parts in maintaining the vital or intellectual economy, they remained as ignorant as the instruments with which they made their dissection; or, if they extended their views a little beyond the ordinary routine we have described, it was only to hazard a conjecture as to the seat of the soul, or the action of the nervous spirits.

Thanks to Gall and Spurzheim, an end was put to this idle mummery, and a revolution begun in the study of the nervous system, that has terminated in results, the full value of which time only can determine. They began their dissection of the brain at the base, and, abandoning the common notion of the medulla oblongata being a prolongation of the brain, they traced its bundles in their upward course, saw them enlarging and expanding as they went along, and finally terminating on the surface and forming the convolutions. The uses of the various ganglia in reinforcing the fibres during their passage through them, were successfully demonstrated, and the commissures shown to be formed by the union of the converging fibres proceeding from the grey substance on the surface. An admirable system of relations was proved to exist between various parts of the brain, which had previously been associated by no other connection than such as might have been suggested by a warm fancy or random conjecture, and a grand and beautiful body of doctrine was created, in which order, consistency and design was substituted for discrepancy and confusion. A flood of light was poured upon the nervous system, which, though sciolists may not, or affect not to see it, has guided the steps of many a subsequent inquirer in this difficult path, and conducted him more surely and quickly to the object of his researches. It is too late to decry the services of such men, for their merits are established and gratefully acknowledged by the world. Reil declared with an energy worthy the truth of the avowal, 'I have seen in the anatomical demonstrations of the brain, made by Gall, more than I thought a man could discover in his whole life.' Blainville, the present distinguished professor of comparative anatomy at the Museum of Natural History in Paris, though the opposer of many of Gall and Spurzheim's anatomical views, has candidly acknowledged, that the study of the brain and nervous system has received from them an impulse and direction altogether new; and that were it possible for their discoveries to be completely overthrown, there would still remain to them the ample honor of being the source of all that may be valuable in future labors.* And these are the men whom the North American Reviewer has pronounced to be 'alike deficient in learning and accuracy;' who 'have picked up a mass of odds and ends of information,' who 'have been at a feast of learning and stolen the scraps.' So much for the Reviewer's account of their 'discoveries in anatomy.' We advise him, as a friend, the next time he attacks phrenology, not to meddle with anatomy; he had better confine himself to the *infidelity* part, for that will take, and besides, requires no remarkable talent or information, — probably the less of either the better.

With what avail the Reviewer himself has pursued his anatomical studies, may be judged from the following passage, in which if there is not a positive discovery announced, there is something so very much like one, that we feel bound to give it to our readers. After stating the organs to be in the shape of cones, whose apices are 'somewhere about the medulla oblongata, and their bases at the surface of the brain, he adds, 'we do not understand that they are supposed to be literal [literal cone! think of that] and right lined cones, but only conical in their character, commencing in a small bundle of nervous fibres, and though the course of these may be more or less devious, ending finally in an expansion on the surface, which gives rise to another set of expanded fibres, that again converge *to the original point or apex of the cone.*' We congratulate the gentleman on the success that has attended his anatomical studies thus far, and which is so happily exhibited in the above passage, but he must allow us to caution him, lest another such victory prove his irretrievable ruin. He seems, however, to be in the predicament of a much greater man before him, who was said to draw upon his memory for his figures, and imagination for his facts; otherwise, it is not a little we would give, to know to whom he is indebted for the notion we have italicised, for of course, we need not inform our anatomical readers, that they would look in vain for it in any book, that were ever published on the subject. A man is free to dispute Gall and Spurzheim's notions, if he please, but we know no right that permits him in the statement of them, to convert them into nonsense, or something worse, gross absurdity, and then demolish them for the edification of the public. If he had studied their anatomy of the brain with half the pains he has taken to assail their reputation, we should have been spared this outrageous blunder, and probably (if it be not paying too great a complement to his understanding) escaped the infliction of the article altogether. He would have learned that, according to their views, the converging fibres proceed towards the median line and form the corpus collosum, the fornix, the commissures and tuber annulare, and of course that they are guiltless of the ridiculous nonsense he has put into their mouths. Not content with carrying the converging fibres to a wrong place, we are left to infer from his language, that they 'again converge,' — that it is not the first time they have been on this tom-fool rout. Really, this is insufferable. Phrenology is to be cried down, and the anatomical discoveries of its founders denied, by people ignorant of even the very rudiments of anatomy.

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* Did not the Reviewer know that the account of the Brain in Cloquet's Descriptive Anatomy, lately republished in this country as a text-book, and regarded as superior to any other of the kind, is taken entirely from Gall and Spurzheim?

Another ground assigned by the Reviewer for his disbelief of phrenology is, that the organs have never been fairly dissected out from their neighbors, or their natural lines of separation distinctly pointed out, leaving his readers to infer we presume, that the instance is not known of any two parts of an organized system having distinct functions, that cannot be separated by mechanical means. This certainly is the inference and would be received without suspicion by those not particularly acquainted with these matters, and though we are unwilling to charge him with intentional falsification, yet it is hard to conceive how so gross an error should have been committed with even a tyro's knowledge of anatomy. He must know that nobody has disputed that the parts of the spinal marrow, from which the anterior roots and the posterior roots of the spinal nerves proceed, the former imparting the power of motion and the latter of sensation, to the organs in which they are distributed, are endowed with separate functions, though it is not pretended that the sharpest eyes or nicest dissections have ever pointed out the boundaries of the different portions. Neither could any dissection have revealed the fact that the spinal nerves are composed of two different sets of fibres, one destined for sensation, the other for motion, yet nobody doubts it. It is a principle well known, we had presumed, to every medical student, that a knowledge of the structure of an organ does not of itself, impart a knowledge of its functions, but is only one of the means, in conjunction with physiology and pathology, by which these are to be learned. If the existence in a part of specifically distinct functions, be established by physiological and pathological proofs, the inference is a perfectly philosophical one, of specifically distinct structure in that part. It was never pretended to base phrenology on anatomical facts, for whether they support it or not, is a question entirely irrelevant to that of its truth. It has been merely shown that it is not contradicted by anatomy, but is in accordance with all its facts. We do know, for instance, that the fibres which form the anterior lobes of the brain, have not come from the same primary bundles in the medulla oblongata, have not pursued the same course, and have not received the same reinforcements from the ganglia, as those which form the posterior lobes, and so on. Here certainly is difference of structure enough, to account for unlimited difference of function. In the shape and relative situation of the convolutions also, Spurzheim pointed out a uniformity so striking, as to make them easily recognised by a practised observer. The Reviewer's remarks on the boundaries of the organs, evince an acquaintance with this kind of discussion, that admirably qualifies him for the business of a critic. 'We find it stated, indeed, by Dr Spurzheim, that he read before the Royal Society of London a paper on the boundaries of the organs, which they did not think worthy of publication; but we are yet to learn on what occasion such demonstration has been offered to the public. Whoever saw such a dissection, and when, where, and with what degree of publicity has it ever been performed, or pretended to be performed?' For his especial benefit then, we will inform him, as he might have informed himself, if he had been anxious to know the truth of the matter, that the Doctor never pretended to offer any such demonstration to the public, but in the paper above referred to, he simply stated that the figure and relative situation of the convolutions are uniform, and can be easily identified in different brains, and to illustrate his remarks, he presented several drawings of real brains. No demonstration, in the technical sense of that word, from the brain itself was offered to the Royal Society, because nothing was to be shown, that was not perfectly obvious without any preparation. No anatomist, certainly, would have complained, because the brain itself was not exhibited, for if he had eyes of his own, he could readily test the correctness of the proposition by his own observations. If a person should tell the Reviewer that he saw a three headed calf in a certain place, and that it might be seen there still, how would he be likely to satisfy himself of the truth of the report? by requiring him to state on what day he saw it, who were with him at the time, and every other circumstance connected with the exhibition, or by taking a walk to that part of the town and looking for himself? As no dissection of the brain was made by Spurzheim, to prove what he said relative to the configuration of the surface, the who, when, and where so triumphantly called for by the Reviewer, of course, cannot be forthcoming.

Once more, and we have done. The cerebellum has been considered by phrenologists as the seat of a particular faculty, and they have established their views by an abundance of physiological and pathological proof. All this however, is completely overthrown, the Reviewer thinks, by a case lately reported, where the cerebellum did not exist at all, while the propensity was remarkably developed. As he has not seen fit to furnish any details of the case, and we have not access to the Journal in which it appeared, we can merely say, that it is one of those cases, like the total ossification of the brain, which, if it prove anything, proves too much — it proves that the cerebellum is a useless organ and can be dispensed with without any inconvenience.* If it be placed in the skull for any purpose at all, we require to know what function was observed to be deficient in this instance; and until we know this, we suspend any farther judgment in the matter.

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* Is it the case barely mentioned in a late number of the Medico-Chirurgical Review, the 34th, we believe? It is there stated that the subject was a girl, 11 years old. With what probability the propensity alluded to could have been 'remarkably developed,' at that age, every one is at liberty to judge for himself.

We have now settled our account with the North American Reviewer. We have brought forward almost every passage containing an assertion, proposition, principle, or statement of facts relative to anatomy, and convicted him of ignorance or error in every one. The rest of the article, it would be hardly consistent with the nature of our Journal to notice; but would it be necessary if we could? After what has been said, we ask, if any further proof is required of the total incapacity of this writer to discuss any part of phrenology, or if any confidence can be placed in the reasonings of one grossly ignorant of facts with which he is expected to be familiar? Let our readers be assured that this article is but a fair specimen of the anti-phrenology to be found in newspapers and reviews, and we will only add, ex uno disce omnes.

We have written with the impression that the Reviewer is a medical man, though we hope for the credit of the profession, we have been deceived. We would rather know that he is some youthful aspirant for trimonthly fame, who had crammed his head with anatomical phrases, and was uneasy till he had let off his paper pallets at the phrenologists. But whoever he may be, we cannot take our leave of him without relating an anecdote for his particular good, that occurred to us more than once while reading his article. A worthy old clergyman, whose venerable countenance is still in the recollections of our boyhood, was much annoyed by one of his flock, an honest but simple minded cordwainer, who, from a fondness of dipping into books of controversial theology, had unsettled his opinions relative to the mode of baptism, and was in the habit of coming to his spiritual teacher and talking on the subject nearest to his thoughts, not more for the purpose of obtaining light, than puzzling his pastor with his doubts and objections. On one occasion, while flushed with the warmth of disputation, he ventured upon a little biblical criticism; 'But *baptizo* and *baptizein* don't mean exactly' — 'Sir,' interrupted the Doctor and handing him a Greek testament, 'be kind enough to show me those words you just mentioned.' 'Ah, you must excuse me,' replied the discomfited mender of soles, 'I never studied Greek.' 'Well sir,' concluded the Doctor, 'let me advise you for the future to stick to your last, and leave *baptizo* and *baptizein* to those who know more about them.

ART. II. — PATHOLOGICAL ANATOMY.

Illustrations of the Elementary Forms of Disease. By ROBERT CARSWELL, M.D., Professor of Pathological Anatomy in the University of London, etc. etc. *Fasciculus first. Tubercle.* London: Longman & Co.

OUR readers will recollect that in our Magazine for May, we called their attention to the prospectus and first fasciculus of the highly valuable elementary work of Dr Carswell, on pathological anatomy, which had just been received in this country. Having a firm conviction that all valuable attainments in diagnosis must be founded in a knowledge of morbid appearances, we wish to call the attention of our medical friends once more to this work, as they have not before had offered them the means of obtaining so much distinct knowledge of morbid or pathological anatomy at so cheap a rate. We beg, therefore, to be indulged in some observations, designed to show the actual value of plates in the study of this branch of our science.

We know the objections which some are ever ready to make to a kind of knowledge which it costs much labor to acquire. They prefer the speculations of the closet. What do we see in the dead body but the effects of disease? and how often do we fail to discover any lesion adequate to account for the disease and death? These questions contain the objections in the mouth of such persons. We might ask in turn, what do we see on the skin in small pox and measles but the effect of disease?

Is it then of no use to regard the cutaneous disease? Is it of no use to distinguish this from common inflammation, or from a nettle rash? Surely this knowledge influences both our prognosis and our treatment.

But in the dead body the lesions we see, duly compared, give us much knowledge of what has preceded; and when placed side by side with the symptoms, we are taught to know in the living body what is going on in the parts out of our sight and beyond our reach. In other words, we are instructed in diagnosis; and hence in prognosis, and somewhat in the treatment. But if we discover no *lesion* after a careful examinatiod, we discover much. We then learn in what cases disorder of function alone may be followed by death.

We trust, however, that the value of morbid anatomy need not be enforced among us even by these few suggestions. But how shall those pursue this study, who are rarely able to make examinations after death, and cannot, therefore, make the necessary comparisons: who can hardly decide on the nature of the phenomena they see, nor discriminate the accidental from the essential changes; to whom, indeed, the ordinary cadaveric appearances are not familiar? Such persons must surely seek information from those whose opportunities are more favorable. This information is offered in different modes. Morgagni, and many since his day, have described the morbid changes found after death in many of the diseases to which the human subject is liable. Much is to be learned from these persons. But verbal descriptions are inadequate to give a satisfactory knowledge in many instances. The knowledge thus acquired is not easily retained. To have, then, the means of giving better instruction, many persons, in England especially, have preserved the morbid parts, and thus formed museums of great value. These are farther enriched by drawings of many morbid parts in a recent state, of such, especially, as are not easily preserved. Not to speak of others, Dr Carswell has collected 2,000 admirable colored drawings of morbid parts which he has examined. By the aid of these he can give more useful instruction to those who become his pupils in the London University, where he is Professor of Pathological Anatomy. But to obtain this instruction afforded to his pupils, we must incur much expense and occupy much time, and perhaps have an opportunity of seeing each of his representations of disease only once. That we may be able to avail ourselves of his collection with more ease and at a cheaper rate, he engages to furnish us with colored engravings of the most valuable among his drawings. These are to be given in numbers of four plates each. There are to be twelve numbers, and the price of each is three dollars, in London. So, then, we shall have the whole work for thirtysix dollars. A sum very small certainly, for so valuable and important a work. The price is about the same as that of the plates to Baillie's Morbid Anatomy, over which the present work has the advantage of being very accurately colored, and of course presenting to the eye a far more vivid picture of the alterations which disease induces in the different textures. Baillie's plates were generally prepared from morbid specimens preserved in spirits, by which mode of preservation, the shades of color are lost;

while those of Carswell are drawn on stone, from the original drawings made by the author from the recent subject.

Of these drawings, we can speak from personal observation. They are the result of six years of patient industry in the dissecting rooms of Paris, and have been pronounced by many competent judges to whom they have been submitted, admirable illustrations of the alterations they are intended to represent. The engravings are printed on superfine paper of the royal quarto size, and most expensively colored. Indeed, we have been informed that a third part of the expense of the publication is paid for coloring the engravings after they are printed.

The first fasciculus is devoted to the illustration of tubercles. In regard to these bodies, Professor Carswell has advanced some opinions altogether new. We propose to give some brief view of these opinions, but must first premise that the utility of his work does not depend upon establishing the truth of these opinions. If not true, they have led him into some minute investigations, from which we derive an advantage in these plates, and hence, at least, some benefit, for which we should be grateful.

What is a tubercle? This is the first question. The word has been employed in a sense more or less extended at different periods, in accordance with the progress of pathological researches.

Tuber, is a tumor; and its diminutive tubercle is a little tumor. In this sense, no doubt, the word was first used. It became, however, restricted to little tumors or circumscribed indurations in the lungs, in the which bodies we discover the origin of the most fatal kind of pulmonary consumption. Afterwards it was found that similar bodies were discovered in the other organs of consumptive patients, and sometimes in those who were not consumptive. Hence the term has been for sometime applied to those bodies when found in any part of the body, though not to every small tumor. The tubercle is thought to be a body having peculiar and distinctive characters. But what is this peculiarity, and how is this body to be distinguished? Scarcely two writers are agreed, as to the essential characteristics, and the matter is yet to be settled. It is only of late that any attempts have been made to describe the tubercle with precision.

The importance of a correct knowledge of tubercular diseases has never been over-estimated. Most observers of the present day agree with Laennec that tubercles are the cause, and constitute the distinctive character of pulmonary consumption. If this is correct, then one-fourth of the deaths in Europe and this country are the consequences of this lesion. There is no labor which we would so willingly undertake, as that which would direct the attention of practitioners in this country, to a more close observation of the natural history of the tubercle, at the bedside and in autopsies. We shall deem no other apology necessary for offering our readers the description of tubercles as it is found in some of the best authorities.

Lieutaud has collected a considerable number of observations of tubercles, from various authors, and especially from Morton, the cotemporary of Sydenham, whose Phthisiologia contains many interesting histories of consumption. In some of these observations the appearances of tubercles as to their size, and the color and consistence of the matter composing them, are distinctly noted. But it is probable from the frequent use of the epithets, crude tubercles, cartilaginous, calcareous, purulent, sanguineolent, steatomatous, and gypsous, that various other alterations were confounded with those occasioned by genuine tubercular disease.

Dr William Stark, in his works published in 1788, gives a clear definition or rather description of tubercle, which certainly had not at that time attracted much attention as a distinct disease, although occasionally mentioned by medical writers, since the time of Galen. A circumstance, which no doubt retarded observation upon this point, was the very prevalent belief in the contagiousness of phthisis. But for this fear, the industry of Morgagni would have been more zealously directed to this point.

The following is Dr Stark's account of pulmonary tubercle. 'In the cellular substance of the lungs are found roundish, firm bodies, named tubercles, of different sizes, from the smallest granule to about half an inch in diameter, the latter often in clusters. The tubercles of a small size are always solid, even those of a larger are frequently so; they are of a whitish color, and of a consistence approaching nearly to the hardness of cartilage; when cut through, the surface appears shining, smooth and uniform. No vesicles, cell, or vessels are to be seen in them, even when examined with a microscope, after injecting the pulmonary artery and vein. On the cut surface of some tubercles were observed small bodies, as if made by the pricking of a pin; in others were found one or more small cavities, containing a thick white fluid, like pus; at the bottom also of each of these cavities, when emptied, several small holes were frequently to be seen, from which, on pressing the tubercle, matter issued; but neither of these holes, nor the others above mentioned (so far at least as could be determined), communicated with any vessels. The cavities, in tubercles, are of different sizes, from the smallest perceptible to half an inch or three quarters of an inch in diameter; and when cut through and emptied, have the appearance of small white cups, nothing remaining of the substance of the tubercle, except a thin covering or capsule. The cavities, of less than half an inch in diameter, are always quite shut up; those which are a little larger have as constantly a round opening, made by a branch of the trachea. At this period, there being a free passage for the matter contained in the tubercle, into the trachea, and a communication between the cavity of it and the open air, it is proper to change the name of tubercle into that of vomicæ.' Under the head of vomicæ he still goes on describing the ravages of tubercular disease. 'The smaller vomicæ are commonly entire, the larger are frequently ruptured; the largest (which, generally speaking, are of an oval shape, and about four inches in length) are lined either partially or entirely with a smooth, thin, tender slough or membrane; the same as the capsule of the smaller vomicæ. The matter contained in them, when the capsule is entire, is whitish or yellowish; when ruptured, reddish; in either case readily diffusible in water. It is proper, however, to remark, that even in the largest vomicæ, when they are not completely ruptured, the matter is seldom red, but yellowish, ash-colored or greenish; often fetid.'

'Into all vomicæ, the smallest perhaps excepted, there are several openings of the bronchia; also openings forming communication between the several vomicæ; the bronchial openings are commonly round and smooth; the others generally irregular and ragged. The larger vomicæ, which have numerous bronchial openings, are found to contain scarcely more matter than is sufficient to besmear their surface; and what shows clearly that the matter of vomicæ is discharged by these openings of the aspera arteria, is, that if a deep incision be made into any diseased part of the lungs, and that part gently compressed, the matter will be seen to issue from the cut extremities of the bronchia; or if any considerable branch of the aspera arteria be laid open, and the lungs pressed in the same manner, the matter will be seen coming into it, from the smallest ramifications.

The largest vomicæ are generally situated towards the back part of either upper lobe, and are commonly concealed; though sometimes on the surface of that part of the lungs, which is thin and sinks into a hollow, there are several small apertures leading to the vomicæ; and sometimes, though rarely, a vomicæ is a hemispherical cavity on the outward part of the lungs. Wherever there is a vomicæ, there is always a firm adhesion of that part of the lungs to the parietes or pleura, so as to preclude all communication between the cavity of the vomicæ and that of the chest; even tubercles are seldom found without adhesion.' Dr Stark found the left lung oftener diseased than the right.

Baillie's description of tubercles is given with his usual accuracy, simply detailing appearances without theory or speculation. He says; 'there is no morbid appearance so common in the lungs as that of tubercles. These consist of rounded firm white bodies, interspersed through their substance. They are, I believe, formed in the cellular structure, which connects the air cells of the lungs together, and are not a morbid affection of glands, as has been frequently imagined. There is no glandular structure in the cellular connecting membrane of the lungs; and on the inside of the branches of the trachea, where there are follicles, tubercles have never been seen. They are at first very small, being not larger than the heads of very small pins, and in this case are frequently accumulated in small clusters. The smaller tubercles of a cluster probably grow together, and form one larger tubercle. The most ordinary size of tubercles is about that of a garden pea, but they are subject in this respect to much variety. They adhere pretty closely to the substance of the lungs, and have no peculiar covering or capsule. When cut into, they are found to consist of a white smooth substance, having great firmness, and often contain in part a thick curdly pus. When a tubercle is almost entirely changed into pus, it appears like a white capsule in which the pus is lodged. When several tubercles of considerable size are grown together, so as to form a pretty large tuberculated mass, pus is very generally found upon cutting into it. The pus is frequently thick and curdly, but when in considerable quantity it is thinner, and resembles very much the pus from a common sore. In cutting into the substance of the lungs, a number of abscesses is sometimes found, from pretty large tubercles having advanced to a state of suppuration. In the interstices between these tubercles, the lungs are frequently of a harder, firmer texture, with the cells in a great measure obliterated. The texture of the lungs on many occasions, however, round the boundaries of an abscess, is perfectly natural.'

Dr Baron, of Gloucester, deserves much credit for the zeal and industry with which he urged the importance of the inquiry into the pathological character of tubercle, and probably has succeeded in directing the attention of English medical readers to this subject more forcibly than any previous writer of his country. He himself states, that he was prompted to his labors in this department by the illustrious Jenner, and received from him the rudiments of his hypothesis, now very generally abandoned, of the hydatical origin of tubercles. The constant predominance of this opinion has somewhat diminished the value of his descriptions, and is no doubt the cause of his including in his cases some affections which cannot be considered of a tuberculous kind. In his second work on this subject, 'Illustrations of an inquiry respecting tuberculous diseases,' he sets forth his theory in nine distinct propositions, of which the following are the four first. He affirms, 'first, that tubercles exist in almost every texture of the body, and that their origin and essential character will probably be found to be the same wherever they are discovered. Second, that tubercles in their commencement are small vesicular bodies (i. e. hydatids) with fluid contents. Third, that these bodies subsequently undergo transformations, on the nature of which their tubercular character depends; that these transformations are progressive, but not uniform, and that it is only in the larger bodies of this kind that they can be accurately traced. That they commence with an opaque spot, which advances with different degrees of rapidity, and ultimately converts both the containing and the contained parts into substances very different from what they were at first. Fourth, that on the size and relative position and structure of the tubercles which are thus formed, depend the characters of many of the most formidable disorganizations to which the human body is exposed.'

Dr Baron's description of the progress of tubercles in common tubercular phthisis, our readers will still see is tinged with his theory of the animal origin of the disease. The following is his language: 'When tubercles are first formed in the lungs, they are not cognizable by the touch, by reason of the delicacy and elasticity of their structure, but they are visible on careful inspection. They are very small, vesicular, transparent bodies, and shine amid the unchanged texture of the surrounding lung. Should any of them happen to have been generated on the surface of the membranes, they may be seen clustering together, and resemble, both in size and general character, the beautiful globular incrustations which beset the leaves of the ice-plant. In the human subject it is very rarely that we can have an opportunity of detecting them in this their primary state; and consequently most of the descriptions which have been given commence at a period somewhat later in their progress. At that time the softness and delicacy of the vesicle is lost, its transparency is diminished, and its size is increased. On examining the lung where they may exist, by the touch, a distinct granular sensation is communicated to the fingers. The progress from this period is evinced by an augmented size, a firmer texture, and a complete loss of transparency, a yellow, opaque body being perceptible. In this state they sometimes fall into ulceration and prove fatal. But before such an event takes place, it occasionally happens that many of them advance further, and exhibit other appearances. Except where they are in contact with each other, they go on increasing in bulk. The coats of some become thick and hard, and almost cartilaginous, while their contents may vary both in color and consistence. Others proceed in a different way, and are condensed into solid bodies of a uniform texture, the cysts and the contained parts being scarcely discernible from each other.'

'The appearance, then, of the lungs of those who die in this state, is as follows: some tubercles when cut through will be found firm and solid, others with thick dense coats containing curdy, cheesy, or purulent looking substances; others will be found to have been in part destroyed by the progress of the ulceration, and to show the firm and almost cartilaginous remnants of the emptied cyst, conspicuous amid the surrounding disease. Should a great number of contiguous tubercles have fallen into this state, deep and extensive and irregular shaped fissures and excavations are thereby formed.'

The new method of exploration of diseases of the thorax, promulgated by Laennec, gave a currency to his opinions on the subject of tubercles, which had not been obtained in this country, for the accurate description of Bayle, whose 'Researches' preceded the 'Treatise on Diseases of the Chest,' of M. Laennec, by ten years. Laennec's account of tubercular development is as follows: 'Whatever be the form under which the tuberculous matter is developed, it presents, at first, the appearance of a grey, semi-transparent substance, which gradually becomes yellowish, opaque and very dense. Afterwards it softens and gradually acquires a fluidity nearly equal to that of pus; it being then expelled through the bronchia, cavities are left, vulgarly known by the name of *ulcers of the lungs*, but which I shall designate, tuberculous excavations.'

'The most common form under which tuberculous matter appears in the lungs is that of miliary tubercles. The tubercles in this variety resemble small grains; they are of a grey color, and semi-transparent, sometimes even transparent and colorless, and of a consistence somewhat less than that of cartilage. Their size varies from that of a millet to that of a hemp seed. Their shape, roundish at first, is found on inspection to be less regular, when examined closely, and with a lens; they sometimes even appear somewhat angular. They adhere intimately to the pulmonary substance, insomuch that they cannot be detached without bringing with them some portions of it. Before this union, however, a small yellowish, opaque speck appears in the centre of each tubercle; this speck gradually enlarges and finally involves the whole tubercle. Very frequently the tubercles coalesce, before their whole substance undergoes the change first mentioned; and in this case, when we divide one of the masses formed by the union of several, we can readily recognise the small yellow points, indicating the centres of the respective tubercles, and the zone of unchanged grey matter surrounding these. After a certain time the conversion of the whole into this yellow matter is completed, and the group then constitutes a single, homogeneous mass, of a whitish yellow color, and of a texture somewhat less compact and moister, than that of cartilage: it is then said to constitute the *yellow crude tubercle*, or simply the crude tubercle. When the miliary tubercles are a little distant from each other, they frequently reach this stage without coalescing, and while they are still only of the size of a millet seed. When the tubercles are very few in number, for example, a hundred only in each lung, they sometimes simply acquire the size of a cherry stone, a filbert, and even an almond. They very seldom exceed this last size; and the larger tuberculous masses are usually either the product of several tubercles united, or of the tuberculous infiltration. In general, we consider it a sign that the isolated tubercles have originated in a single point or granule, when we find them retaining their primitive roundish, or ovoid shape.'

As to the cause of tubercles, Laennec believes that tubercles are not the product of inflammation of any of the constituent textures of the lungs, but that the development of tubercles is the result of a general condition of the body ; that it takes place without previous inflammation ; and that when inflammation coincides with tuberculous affections, it is most frequently posterior to it in its origin.

Andral, in his treatise on Pathological Anatomy, certainly handles the subject of tubercle very cautiously. In his description of facts, he differs in many respects from other observers. He opposes Baillie in stating that tubercles occur most frequently in the lungs, and next in the small intestine, while the former writer asserts their common occurrence in the large intestines and great infrequency in the small. He contradicts Carswell in asserting that tubercles very rarely affect the mucous membrane, but have their seat in the cellular texture. He does not coincide with Baron in the belief that tubercle is in its commencement a transparent vesicle or hydatid ; nor with Laennec, that it commences in the formation of a greyish semitransparent granule. He takes it for granted that tubercle is in its first stage when it appears under the form of an opaque, friable roundish body, of a yellowish white color, and without trace of organization or texture. Tubercles, according to Andral, grow by accretion or intestinal deposite of tubercular matter, and not by intro-susception or animal organization. He considers the softening of tubercle as merely the result of the disuniting and separating of the particles, by pus ; and attributes this, and its final discharge, to the mechanical irritation which the tuberculous matter, as a foreign body, produces. In summing up the pathology of tubercle, he simply states his belief, 'that tubercle must be considered as the result of a modification, or perversion of secretion, which is often attended or preceded by an active sanguineous congestion. This is all we know for certain ; beyond this, everything is mere conjecture.'

M. Louis, whose Researches upon Phthisis we hope soon to see in an English dress, agrees with Laennec in considering true phthisis always to originate in tubercle ; and coincides with him likewise, in opposition to Andral, in supporting the opinion that the grey, semi-transparent granulation, that is *always* found accompanying tubercle, is the first stage of this disease. Louis defines tubercle to be a tumor of a whitish yellow color, not of a shining appearance, and of a variable consistence, which soften after a certain time, empty into the bronchia, and give origin to excavations of greater or less extent.

We shall now proceed to lay before our readers, at some length, the views entertained by Dr Carswell on this important subject, and regret that we cannot enforce his reasoning by transferring to our pages some of the pictorial illustrations he depends upon to support it. Suffice it to say that whether we adopt his explanation of the facts or not, his descriptions are entitled to full confidence in their fidelity.

'DEFINITION OF TUBERCLE. — The following is, I conceive, a correct definition of tubercle, or rather of the tuberculous matter which constitutes the essential anatomical character of those diseases to which the term tubercular is now exclusively restricted.

'Tuberculous matter is a pale yellow, or yellowish-grey, opaque, unorganized substance, the form, consistence, and composition of which, vary with the nature of the part in which it is formed, and the period at which it is examined.

'To comprehend fully the manner in which the latter circumstances modify the physical characters of tuberculous matter, it will be necessary to make a few remarks on the seat of this morbid product in general; a circumstance in the history of tubercle, which, notwithstanding its importance, and the frequent anatomical researches of which it has been the object, has not, so far as I know, been satisfactorily determined.

'The prevailing opinion among pathologists is, that the seat of tuberculous matter is the cellular tissue of organs; — that it may, however, be formed on secreting surfaces, as in the mucous follicles of the intestines; perhaps in the air-cells and bronchi; the surface of the pleura and peritoneum; and likewise in false membranes, or other accidental and new products; and in the blood itself.

'*Seat of Tuberculous Matter.* — Considered in a general point of view, and in relation to the different tissues, systems, and organs of the body, the mucous system is by far the most frequent seat of tuberculous matter. In whatever organ the formation of tuberculous matter takes place, the mucous system, if constituting a part of that organ, is, in general, either the exclusive seat of this morbid product, or is far more extensively affected with it than any of the other systems or tissues of the same organ. Thus the mucous system of the respiratory, digestive, biliary, urinary, and generative organs, is much more frequently the seat of tuberculous matter than any other system or tissue which enters into the composition of these organs.'

External Configuration, or Form of Tuberculous Matter. — The round form which this substance is said to present is a purely accidental circumstance, is common to many other morbid products, and expresses one only, and perhaps the least important, of the many forms which this matter assumes in the several organs in which it is found. Thus, from the homogeneous nature of the cerebral substance, and the equal resistance which at every point it opposes to the accumulation of the tuberculous matter, the form of the latter must be nearly round. Such also, and for similar reasons, is its form in the cellular tissue. But in other organs the form of this morbid product is as various as that of the parts in which it is contained. It assumes the form of a shut, or open globular sac if confined to the secreting surface, and of a solid globular tumor of various sizes, if it fills completely the cavity of air-cells; and, for similar reasons, it presents in the bronchi a tubular or cylindrical form, having a ramiform distribution, terminated by a cauliflower arrangement of the air-cells. In the mucous follicles its form is similar to that which it receives from the air-cells. In the biliary system it has a racemiform distribution, from its being contained in the ducts and their dilated bulbous extremities. In the cavity of the uterus and fallopian tubes; the infundibula, pelvis, and ureters, it is moulded to the respective forms of each of these parts; and such also, it is obvious, must be the case when it is contained in the seminiferous ducts and prostrate gland, in the lacteals, lymphatics, and their glands. On the surface of serous membranes, whether natural or accidental, it may have either a globular or lamellated form, as the secretion in which it originates may have taken place in distinct points, or from a continuous surface of greater or less extent.

'When the secretion of tuberculous matter takes place in such a manner us to become disseminated throughout a considerable extent of an organ, as when it is said to be infiltrated, it has then no definite form, unless it occupies, for example, the whole of the lobe of a lung, when it assumes that of the affected lobe. The granular arrangement of tuberculous matter in the lungs is owing to the accumulation of this morbid product in one or more contiguous air-cells; and the lobular character, which it sometimes presents in the same organ, is produced by its being confined to the air-cells of a single lobule, the neighboring ones being healthy.

'*Consistence and Color of Tuberculous Matter.* — Tuberculous matter does not acquire its maximum of consistence until an indefinite period after its formation. It is frequently found in its primitive state, in the bronchi, air-cells, biliary ducts and their dilated extremities, in the cavity of the uterus and fallopian tubes, &c, resembling a mixture of soft cheese and water, both in consistence and color; but when much resistance is offered to its accumulation, as in the lymphatic glands, and even sometimes in the air-cells of a whole lobule, it may feel as firm as liver or pancreas. These extreme degrees of consistence of tuberculous matter depend not only on the resistance which the tissues of these and other parts oppose to its accumulation, but also on the removal of its watery part sometime after it has been deposited. Hence it follows that tuberculous matter may, when first perceived, be either very soft or remarkably firm. In the first case it is pultaceous, and feels somewhat granular when rubbed between the fingers; in the second, friable; and in both it is of a pale yellow color, and opaque.

'The grey semi-transparent substance, already alluded to, by no means necessarily precedes the formation of the pale yellow or opaque tuberculous matter; it is, indeed, observed in a few only of the many organs in which the latter is found. Thus it is never seen in the cavity of the uterus or fallopian tubes; in the ureters, pelvis, or infundibula of the kidneys; in the mucous follicles of the intestines; in the lacteals or lymphatics; in the biliary ducts; nor do I recollect to have seen it in the cerebral substance. I have never met with it in the bronchi, unless in some of their most minute or terminal branches. On the contrary, the semi-transparent substance is frequently seen in the air-cells and on the free surface of serous membranes, particularly the peritoneum; and in both it is certainly sometimes observed to *precede* the formation of opaque tuberculous matter; because, first, a number of cells of the same lobule are seen filled with the former, whilst the remaining cells contain the latter substance; secondly, because on the peritoneum the grey semi-transparent substance is generally more abundant than the pale yellow opaque matter; and, thirdly, because a small nucleus of the latter is frequently inclosed in a considerable quantity of the former. The following is the explanation which I would offer of these exceptional conditions to the regular and ordinary formation of the tuberculous matter. But, first of all, it is necessary to remark that the formation and manifestation of this matter as a morbid product cannot take place unless the fluid from which it is separated — the blood — has been previously modified. This important fact being admitted for the present, it is obvious that a healthy secreting surface may separate from the blood not only the materials of its own peculiar secretion, but also those of tuberculous matter. Such is, indeed, what takes place in the air-cells. The mucous secretion of their lining membrane accumulates where it is formed; but it is not pure mucus; it contains a quantity of tuberculous matter mixed up with it, which after a certain time is separated, and generally appears in the form of a dull, yellow, opaque point, occupying the centre of the grey, semi-transparent, and, sometimes, inspissated mucus. This process of separation of tuberculous matter from secreted fluids is strikingly exemplified in tubercular peritonitis. When we examine the peritoneum thus affected, the three following stages of the process are frequently extremely well marked: first, on one portion of this membrane there is seen a quantity of recently secreted coagulable lymph; secondly, on another we find the same plastic semi-transparent substance, partly organized, and including within it, or surrounding a globular mass of tuberculous matter; and, lastly, on another part the coagulable lymph is found converted into a vascular or pale cellular tissue, covered by an accidental serous membrane, beneath which, and external to the peritoneal or original secreting surface, the tuberculous matter is seated, having the form of a round granular eminence, resembling in color and consistence pale firm cheese.

In this as well as as in the preceding case we cannot but perceive that the formation of tuberculous matter originates in a process similar to that of secretion; that its separation from the blood may be accompanied with that of natural and also other morbid secretions; and hence the reason why its physical characters are sometimes obscured, particularly in the first stage of its formation.

Composition of Tuberculous Matter. — The composition of this matter, when examined anatomically and chemically, presents considerable variety. I have already said that it is essentially composed of a cheesy-looking material, without any trace of organization. It has, in fact, no definite internal arrangement, and the changes of bulk, consistence, and color which it undergoes, are entirely dependent on the influence of external agents. In some animals, but more particularly in the cow, it is frequently found to present a concentric, lamellated arrangement, which, however, does not belong to the tuberculous matter. It is owing to the presence of albumen, and sometimes even of fibrine, which, as in the cases already referred to, are secreted along with tuberculous matter. These substances, intermixed with tuberculous matter, are found lining the bronchial tubes, or filling up their entire cavity, and forming masses sometimes an inch in diameter; they often assume the form of globular membranous cysts when they are contained in the air-cells, and then have a striking resemblance to hydatids; or, lastly, they present the form of detached tubes or globular membranes, rolled up and mixed with tuberculous matter, like layers of boiled albumen or dead hydatids; a circumstance which has been taken advantage of to support the theory of the hydatic origin of tubercles; — a theory which, if not founded in error, must obviously be regarded as extremely limited in its application, since I have shown that tuberculous matter is in general formed *ab origine* on the secreting surface of hollow organs, where it is seen as distinctly as if it had been thrown into them from a syringe.

'The chemical composition of tuberculous matter varies not only at the different periods at which it is examined, but also in different animals, and, probably, in different organs. In man it is chiefly composed of albumen with various proportions of gelatine and fibrine ; in the cow, in particular, it contains a large proportion of the earthy salts, in which the phosphate of lime is said either to predominate, or to exist in the same proportion, along with the carbonate of the same earth, as it does in bones.

'The most important fact connected with the chemical composition of tuberculous matter is, that, either from the nature of its constituent parts, the mode in which they are combined, or the conditions in which they are placed, they are not susceptible of organization, and consequently give rise to a morbid compound, capable, as I have already said, of undergoing no change that is not induced in it by the influence of external agents.

'*Softening of Tuberculous Matter.* — When the process of softening takes place in tuberculous matter, it is clear, from what I have just stated, that it cannot be owing to any change originating in this morbid product. Besides, when speaking of the *consistence* of this matter, I showed that in many organs it is always in a state of fluidity, and, consequently, does not require to undergo the change in question, supposed to be necessary to, or at least to facilitate, its expulsion. When the tuberculous matter has become firm, owing to the circumstances which I have already explained, it may at some future period be converted into a granular-looking pulp, or pale grumous fluid of various colors, from the admixture of serosity, pus, blood, &c, which have been effused or secreted by the tissues subjected to its irritating influence. The pus and serosity pervade the substance of the tuberculous matter, loosen and detach it. These changes are further promoted by atrophy, ulceration, or mortification of the surrounding or enclosed tissues, the blood vessels of which have been compressed or obliterated by the tuberculous matter.

'If these changes take place slowly, as in the lungs, the tuberculous matter is expectorated in the form of a grey, somewhat puriform-looking fluid ; but if they are effected speedily, it is often detached and expelled in masses of various sizes, resembling fragments of cheese which have been left sometime in water.

'The process of softening of tuberculous matter is said always to commence in the centre, not only of masses of this substance, but likewise of every individual portion of it which has assumed the round or tubercular form. This opinion is extremely incorrect; and, indeed, the explanation which I have just given of the process shows that such cannot be the case. However, there must be some real or apparent circumstance connected with this *central* softening, so minutely described by Laennec, which has not been understood by this ingenious author, nor by those who disagree with him on this particular point. The description which I have given of the formation, seat, and forms of the tuberculous matter, enables me to offer a satisfactory explanation of the appearances which have led Laennec and others into error, regarding the commencement of softening of this substance.

'It has been already stated that when tuberculous matter is formed in the lungs, it is generally contained in the air-cells and bronchi. If, therefore, this morbid product is confined to the surface of either, or has accumulated to such a degree as to leave only a limited central portion of their cavities unoccupied, it is obvious, that when they are divided transversely, the following appearances will be observed : — 1. a bronchial tube will resemble a tubercle having a central depression or soft central point, because of the centre of the tube not being, or never having been, occupied by tuberculous matter, and because of its containing a small quantity of mucous or other secreted fluids ; — 2. the air-cells will exhibit a number of similar appearances, or rings of tuberculous matter grouped together, and containing in their centre a quantity of similar fluids.

'When the bronchi or air-cells are completely filled, the tuberculous matter presents no such appearances as I have described ; and hence the reason why tubercle, in such circumstances, has been said to be still in the state of *crudity*, or that condition which precedes the softening process.

'Softening begins most frequently at the circumference of firm tuberculous matter, or where its presence as a foreign body is most felt by the surrounding tissues. Hence the reason why softening is frequently seen making its appearance in several points of an agglomerated mass of this substance, which has included within it portions of the tissues in which it was formed. This is frequently observed in the lungs, and cellular tissue in other parts ; whereas in the brain, the substance of which has from the commencement been separated and pushed outwards by the tuberculous matter, the softening process begins, and is always most marked, on the circumference of this morbid product.'

Dr Carswell believes in the occasional entire removal of tuberculous matter from an organ, or in other words, the cure of tubercular diseases. This he believes is demonstrated, in the cure of scrofulous glands, regarded by Dr C. as generally tuberculous, without ulceration or suppuration — in the occasional favorable termination of tabes mesenterica — in the results of the experiments of Jenner and of Baron, which were repeated by himself, in which tubercles were produced in the livers of rabbits, by particular modes of feeding, and were afterwards completely removed by absorption and excretion.

We shall indulge in one extract more, to show Dr Carswell's view of this curative process in the bronchial glands, in individuals who had recovered from scrofula and pulmonary phthisis, but who died sometime after of other diseases.

'I have found these glands situated at the bifurcation of the trachea, where they are generally most frequently and most extensively affected, as well as some way up the trachea, containing a greater or less quantity of a substance resembling putty or dry mortar, the consistence of which was sometimes equal to that of sandstone or bone. This substance has generally a stellated form, or presents a number of sharp spiculæ projecting from a central mass, which excite inflammation, ulceration, and hence perforation of the walls of the trachea or bronchial tubes with which they come in contact. A direct communication is thus formed between the cavity of the air-tubes and the diseased glands, through which the cretaceous bodies pass; and they are rejected along with the expectorated fluids. I have seen several examples of cure of tubercular disease of the bronchial glands, effected in the manner just described. The patients were generally advanced in years, and had frequently observed the cretaceous matter in their sputa, portions of which have been shown to me, and were found to present all the physical characters of that which was afterwards detected in the bronchial glands.

'When these glands have evacuated the whole of their contents, they are found atrophiated, and converted into a fibrous tissue, which fills up the external orifice of the perforated air-tube. The accidental opening now contracts, becomes obliterated, and leaves in its place a puckered depression or cicatrix, seen on the internal surface of the air-tube.

'Similar appearances, indicating the removal of the serous and albuminous parts of the tuberculous matter, and the condensation of its earthy salts, have frequently been observed in the lungs of persons whose history left no doubt as to their having, at some period of their lives, been affected with tubercular phthisis. The important fact of the curability of this disease has, in my opinion, been already established by Laennec. I shall, therefore, only shortly allude to those changes which take place in the tuberculous matter, pulmonary tissue, and bronchi, which indicate that this fortunate termination of phthisis has taken place. The tuberculous matter, whether contained in a bronchial tube, the air-cells, or cellular tissue of the lungs, has assumed a dry, putty-looking, chalky, or cretaceous character. If these changes are observed in an excavation, the surrounding pulmonary substance is generally dark-colored ; and if the excavation exists in the course of large bronchial tubes, those situated between the excavation and the periphery of the lungs are obliterated, whilst those in the opposite direction terminate either in a shut extremity near the excavation, or are continuous with the lining membrane or accidental tissue which encloses the altered tuberculous matter. The existence of this accidental tissue is an important circumstance as regards the cure of tubercular excavations. It is formed by the effusion of coagulable lymph on the surface of the excavation, or in the substance of the contiguous pulmonary tissue ; has at first, and so long as a ready exit is afforded to its secretion, the characters of simple mucous tissue ; but at a later period, and especially when the latter condition is wanting, it becomes gradually and successively converted into serous, fibrous fibro-cartilaginous, and cartilaginous tissues.

'The cartilaginous and the osseous transformations of this accidental tissue are, however, rare, particularly the latter. It much more frequently retains the fibrous character, and possesses the property of contracting so as to diminish the bulk of the excavation, and carry with it the pulmonary tissue with which it is connected. The diminution of bulk which accompanies the removal of the tuberculous matter, and the contraction of this accidental tissue, give rise to a puckering of the lung, which is best seen where the pleura is forced to follow the retrocession of the pulmonary substance beneath it, and around what is called the cicatrix : for there sometimes remains only a small globular, oval, or even linear portion of fibrous or fibro-cartilaginous tissue, in a part of the lung, where, from the extensive puckering around it, there must have formerly existed an excavation of considerable extent.

'When the tuberculous matter is contained within the bronchi, or a cavity formed by the dilatation of the air-cells, it does not appear that any accidental tissue is formed during the progress of the cure. The matter is gradually removed by expectoration, if the bronchi remain pervious, or by absorption if they become closed ; and then we have the same obliteration of the terminal branches already alluded to, and the same puckering of the surrounding tissues.'

We are glad to find so experienced an observer as Dr Carswell, concurring with Laennec in a view of the sanability of consumptive diseases, not totally discouraging. We do rejoice in the hope that this scourge of our race may yet be brought under the control of remedial agents, or at least its causes ascertained and prevented. It is in this hope that we are willing to press upon our medical brethren the study of the natural history of these diseases.

We do not pretend to decide on the questions raised by the different views of the eminent pathologists of the present day, as to the precise nature of tubercular matter, and all the circumstances of its origin and growth. We presume that further researches must be made before these questions can be settled.

Meanwhile, though the utmost range should be given to these inquiries, we trust it will not be forgotten from what they derive their principal interest. A writer may use the term *tubercle* in a sense more or less restricted, according to his own pleasure, while he defines exactly the sense in which he uses it. But though disease of every kind and in every organ, shall engage our attention, our interest in this subject has been derived, and probably always will be, principally from the tubercular disease of the lungs. The appearance of pulmonary tubercles in successive stages, the causes which produce them, and the agency by which their changes are affected, — these are the points in which we are especially interested, and even in the rest of the subject, chiefly as bearing upon the pulmonary department of it.

Now the question is, whether all the morbid changes, called tuberculous by Dr Carswell, and even by others, are of the kind which belong to the true phthisis of Laennec, the tubercular consumption with which we are all too familiar. This question we shall not attempt to solve. We are glad that it is under the consideration of the best pathologists of Europe, whose opportunities as well as ability for investigating it are so much more ample than our own. We thank Dr Carswell for his contributions to our knowledge in this respect.

Each of the four plates of this fasciculus contains several figures explanatory of different depositions of tuberculous matter in the various textures. The descriptions of these plates suggest to us much interesting matter which we have not time to comment upon. Plate 4, especially, is full of interest. The mode in which gangrene of a portion of the lungs is caused by the infiltration of tubercular matter, producing compression of the blood vessels — the changes which take place in the cure of pulmonary phthisis, and tabes mesenterica — and the deposition of grey, semi-transparent matter, causing such an obstacle to the pulmonary circulation as to create hæmoptysis, are very clearly given. The appearances, delineated in fig. 2 and 3 of this plate, are sufficiently familiar to us; but we want evidence of the tuberculous character of these infiltrations. Some among us regard this disease as tuberculous, but the phenomena would seem to be explained on the ground that common inflammation only, had existed in these cases. Meanwhile we doubt whether in such cases, the disease ever runs the course of the tubercles represented in fig. 2 and 3, plate 1. We cannot look upon this infiltration to be the cause of hemorrhage, as exhibited in fig. 3 of plate 4, as commonly as Dr Carswell seems to suppose. Is it not a sufficient explanation that tuberculous matter in all its forms, acts upon the minute sanguiferous vessels as a foreign body, causing determination of blood and active dilatation of the arterial exhalents?

We beg leave to call Dr Carswell's attention to one point, which, though small in itself, is of great consequence to his readers. In several instances the letters of reference have been omitted in the plates, so that it is almost impossible to discover the part of the figure referred to in the text.

ART. III. — THE DISSECTOR'S GUIDE.

Exhibiting the Dissection of every part of the Human Body, illustrated by numerous wood cuts. By E. W. TUSON, F.R.S. — *First American Edition, by* W. LEWIS, jr. M.D.

THIS book is really what it proposes to be, and what its name indicates. There are already many valuable manuals of Anatomy in the dissecting rooms, to some of which the American editor of this refers his readers; but they are generally deficient in directions for economy and neatness in dissecting, and respecting the mechanical arrangements and facilities of the pursuit, which are necessary for all beginners who have not an experienced instructor constantly at hand to prepare and superintend their work. As Dr Lewis remarks, Mr Tuson, the author of the book, seems to be a good judge of what is wanted in the dissecting room, and the same remark may be made, in further commendation of it, respecting the American editor himself. This gentleman has improved the work by adding some valuable directions by way of introduction, and we only regret that he has not, as he might, rendered it much more perfect by furnishing the results of his own experience and ingenuity, in the art of making and preserving anatomical preparations. Mr Tuson has interspersed his descriptions with occasional and pertinent surgical remarks, which would be useful to the student in any shape, but are so, especially, in this connection, as this tends to give a practical direction to his anatomical labors, and to keep constantly in mind the ultimate object of his pursuit.

We should recommend the Dissector's Guide also to practitioners, who are occasionally refreshing their anatomical knowledge, (and it is a shame if there be not many such in this commonwealth) and who are not so situated as to have access to a variety of works, nor to books of plates, most of which are too expensive to be extensively owned.

The typographical execution of this volume, we are happy to say, is an exception to the too common slovenly style of medical book making, and is very neat and correct. The binder would have improved it by guilloting the sheets.

ART. IV. — DR DRAKE ON MEDICAL EDUCATION, AND THE MEDICAL PROFESSION, IN THE UNITED STATES.

THIS is a little volume, dedicated to the students of the Medical College of Ohio, by one of the professors of that institution; and if it shall have the effect to inculcate in them the elevated and generous views of the science and practice of the healing art which it presents, they could not have received a more valuable token of their instructor's regard. It contains seven concise essays on the following topics: *Selection and Preparatory Education of Pupils — Private Pupilage — Medical Colleges — Studies, Duties and Interests of Young Physicians — Causes of Error in the Medical and Physical Sciences — Legislative Enactments — Professional Quarrels.* These are all discussed with great intelligence, earnestness and candor. The argument and spirit of the essays are directed to the establishment of a high standard for medical education, and correct principles of professional taste and ethics.

We are happy to find the following vindication of the ancient classics, as an essential part of the preparatory education of the physician.

'The United States are, perhaps, the only civilized country in modern times, where it has been seriously doubted, whether the languages and literature of the ancients, should make a part of the studies of professional men. Of the various causes which have combined to suggest this question, one of the most operative is the spirit of liberal inquiry, which originated, and is cherished by, our free institutions. No people are so unshackled by prejudices and precedents; none so excursive; none so experimental, as the American. If they do not 'try all things, and hold fast to that which is good,' they try many, and are strongly disposed to fix upon something new.

'Another cause contributing to excite the same doubt, is the successful acquisition of business by physicians, who lived and died in ignorance of Greek and Latin. With such examples before us, it was natural to ask, whether the study of the dead languages should be regarded as indispensable, or even beneficial, to the candidate for the honors of the profession; and not a few have, at all times, been ready to answer in the negative. In this inquiry there has been much to lead us astray.

'Our forefathers, (most of whom were illiterate) emigrated to a forest, which it has been the occupation of their sons to subdue. In the prosecution of this Herculean task, and the subsequent establishment of institutions — political, social, and literary, — they frequently experienced a want of appropriate means, and were compelled by the exigences of their novel and trying situation, to think and act with originality. Hence arose a feeling of self-reliance; a spirit of independence; a disregard of ancient customs; to which we may in a great degree ascribe that indifference to the languages and learning of antiquity, which characterises the majority of our citizens.

'Thus physical circumstances have, indirectly, exercised a mastery over moral causes, and given a deflection to our European character, which promises to become permanent. Moral causes, however, have contributed to the same effect. In migrating from the old world, our ancestors took leave of the institutions devoted to classical instruction; and hence a generation, of necessity, grew up in comparative ignorance. It would be in vain to hope, that a due respect for the learned languages, or even a conviction of their utility, could survive such a transition; and hence we find, that in the United States, a want of acquaintance with them, has been no serious obstacle to the attainment of high *relative* distinction, in any of the pursuits of society. How long this will be the case, it is not easy to foresee.

A perception of their value appears to be returning; but I cannot suppose, that they will ever attain to the rank which they hold in the estimation of our elder brethren of Europe.

'Meanwhile, it is the duty of those who can exercise any control over public sentiment in this respect, to exert themselves; and, if all who are interested in the dignity of the medical profession, could be brought to unite their efforts in favor of a more classical preparation of young men designed for the study, it cannot be doubted, that much might be accomplished, even in a single generation.

A physician who is ignorant of the Latin and Greek languages, whatever may be his genius and professional skill, must, to the eye of sound scholarship, appear defective and uncultivated. For more than two thousand years, these languages, especially the former, were the vehicles of all medical knowledge, except the little contributed by the Arabians; and, till within a century, our professional ancestors wrote, and prescribed, and thought, and lectured, in Latin. It was, indeed, to the profession a universal language; affording the means of an easy and accurate correspondence, among all the schools and physicians of Europe. Even down to the present time, the lectures in most of the Italian and German Universities, are delivered in Latin; while the examination of candidates, in many others, is conducted in the same language. Thus it has had a most protracted and intimate companionship with medicine; to the nomenclature of which it has freely lent its opulent vocabulary. Many of its words, no doubt, as well as those drawn from the dialects of Greece, are intended to convey, in their new situation, ideas materially different from their vernacular import; but in attempting to understand even these, the student is greatly assisted by an acquaintance with their primitive significations. With this knowledge of our dependence on the languages and literature of the ancients, to deny that the study of them must be beneficial, is scarcely less absurd, than to affirm, on the other hand, that every classical scholar is of necessity a physician.'

COLLECTANEA.

Comparative Value of Life in Males and Females.

The investigation of statistic tables has produced results that, to the majority of men must be totally at variance with preconceived opinions. We can only be guided by evidence, and, though the evidence on the relative mortality of the sexes, and of the different classes of society is certainly yet imperfect, there seems good reason to believe that it approaches to the truth. That evidence leads to the conclusion, that the value of life of the female is greater than that of the male. It is not merely greater at particular ages, but at all ages — in childhood, maturity, and senectitude. That evidence proves, also, that the epochs of puberty, and of the cessation of the catamenia, are not so destructive to the female as is commonly supposed. The rate of mortality between the ages of 40 and 50 is much greater in men than in women, and the balance in favor of the latter is equally striking at the age of puberty. We will not stop to inquire why this should be ; suffice it that it is. When we look at the habits of either sex, the riddle appears to be partly solved. From the cradle almost to the grave, the life of the male is more stormy — more subject to the influence of destructive agents than that of the female. It is the male who is chiefly occupied in the harassing business of life — convulsed by political excitement — exposed to the brunt of war and the caprices of the ocean — liable to accidents — and, by the usages of society, tolerated in excesses. Hesiod observed, many centuries ago, that the men were the working bees, the women the drones that fattened on the honey. Certain it is, that woman, whom the fiat of the Creator made, by the weakness and the peculiarities of her physical organization, the minister to man, finds in that very weakness her own best safeguard, and outlives her tyrant or her master.

Let us look at some of these statistic calculations.

Mr Finlaison, the actuary of the national debt, observes that, in every census, there are found alive many more females than males, while, in the births and baptisms for every town, district, or kingdom, there is invariably produced at least 105 boys for every 100 girls. M. de Parcieux and Mr W. Kersseboom have pointed out this difference. The result of the data given by the latter may be briefly stated to be this :—If there were ten classes of children at each age, the first under one year old, the last aged nine, and if the mean duration of life, which it was found each individual in a class had ultimately attained, were separately set out, the sum of the existence obtained by ten boys would be 369 years, and that of girls 402.5.

Mr Finlaison's own calculations will, he hopes, remove all doubt whatsoever on this subject. They show that, except under the age of 12 and above the age of 85, extreme periods, at which, perhaps, no distinction of mortality is apparent, there is at every other period a remarkable and decided advantage in favor of the female. This is first most evident about fourteen, after which the mortality among the female sex is observed to proceed onwards to the age of fiftyfive, with the slightest imaginable increase, contrary to the received notions respecting nursing and child-bearing. Above sixty, the female mortality advances more rapidly, but is always, until the age of eighty, at least, very decidedly less than that of the males.

The mortality of males, from the age of 14 to that of 23, presents a remarkable increase, much greater proportionately, than that of females at the same period. This is probably owing, as Dr Davis remarks, to the greater opportunities for indulgence, of all kind, offered to the male and accepted by him. Subsequently to the publication of Mr Finlaison's Report, the Directors of the Eagle Assurance Association have introduced a considerable difference in the purchase-price of their policies, in favor of the supposed greater average value of female life ; but the example has not been followed by any other life assurance society.

The facts already stated show satisfactorily enough, that the establishment of the catamenia is not a source of danger to the female, that is, her mortality at that period, as at every other, is less than that of the male. The cessation of the menses has always been looked on as dangerous to woman's life, more dangerous than their establishment. Let us look at the evidence of facts on this point also. Are women liable to a greater mortality at this period than the male sex at the same age, or are women subject to a greater mortality at this than at any other period of their own lives ? We must again refer to the calculations of Mr Finlaison. The advantage in favor of female life, he remarks, is first most evident about 14, after which the mortality in the female sex is observed to proceed onwards to the age of 55, with the slightest imaginable increase.—*Med. Chir. Rev.*

NEW SPECULUM UTERI, AND CURE OF SOME CASES OF STERILITY.

M. Melier has lately suggested an improvement on the speculum uteri; it consists in adding a solid moveable cylinder of smooth wood, enclosed within the speculum, and projecting with a rounded head beyond its vaginal extremity. The great advantage of this is, that the folds of the vagina are readily extended without any pain, and the instrument is easily conveyed up to the cervix uteri; the inner cylinder is then withdrawn. M. Melier strongly insists upon the good effects of injections, conveyed into the cavity of the womb, in many diseases: and as barrenness is, no doubt, very often the consequence of a neglected inflammation of the cervix uteri, he suggests the propriety of using them 'pour rendre féconde des femmes jusqu'ici steriles.' In one case, M. Melier, by means of his improved speculum, detected an engorgement of the cervix uteri; and, as he considered that this was the only obstacle to conception, he advised local emollients, discutients, and leeching, soon after the use of which the lady became pregnant of her first child.—*Journ. Heb.*

THE FACTORIES' REGULATION BILL.

We are forcibly struck with the unpretending and philosophical manner in which our contemporary, the Phrenological Journal advocates the extension of education and the moral advancement of the community. There are some observations on the proposed restriction of the labors of factory children to ten hours daily, which do credit to the judgment and feelings of the writer. At the present period, when a commission, partly consisting of medical men, is visiting the manufactories, it may not be amiss to offer a few remarks upon the subject. It is one in which medical observation must and should form the basis of legislative enactments, for were not the health and existence of the children at stake, there could be no valid reason why Government should interfere between capital and labor. There are some, we believe, among others, Mr Hume, who conceive that the Government should not interfere even in such a question as this. We must confess that we differ from these gentlemen, and we think they are yielding overmuch to system and to abstract principles, when, for their sake, for the sake, in short, of free competition and free trade, they sacrifice the health, the comfort, and the lives of millions, and those the most defenceless. Mr Cobbet observed, that the parties at fault were not the manufacturers. The children are not slaves; they are not compelled by the masters to enter into the factories. No; it is the distress or the avarice of the parent that sends his child to the mill, and Parliament does in reality protect the offspring from the cruelty, perhaps in general unavoidable, of the father and the mother.

Our contemporary justly observes that the question, stripped of all factitious considerations, is simply this: — Can children support twelve hours in the twentyfour of labor? We answer unhesitatingly that they cannot; and were the members of the medical profession, from John o'Groat's house to the Land's End, polled on this particular point, we know that, almost to a man, they would make this answer. There need neither commissions nor commissioners to tell us this — our common sense and common observation are sufficient to decide the matter. The children of the middle and opulent classes in great towns, who have no such appalling amount of toil, who do not breathe the heated atmosphere of the mill, who are well clothed and well fed, and comparatively well exercised, are found on the whole to pine, and to require the pure air of the country or the bracing atmosphere of the coast. And we are told that the child of the Manchester mechanic, laboring for twelve hours in a manufactory, heated to 70 or 90 degrees, with an atmosphere smelling of oil, or turbid with the fine dust engendered in the processes — obtaining only a hurried or a scanty meal — ill clad, and passing from such an atmosphere to the open air, and probably to a wretched tenement — fatigued at a monotonous employment, amidst the continual whizzing of machinery — its spirit cowed with the dread of punishment from the hands of the overlooker, or dismissal, and still worse treatment at home — we are told that children can bear all this, and that they are not *very* badly off. Let those who choose be satisfied with the excuse; but sure we are, that our profession, best acquainted, as it must be, with what human nature can and cannot bear, will repudiate it without a moment's hesitation.

Were a Malthusian to argue in support of twelve hours of labor, we might acknowledge his consistency, however we disapproved of his inhumanity. But the Malthusians are silent, and whatever they may think, they have not ventured to defend the present abominable system. If, indeed, their doctrine be correct, and if the better feelings of the age continue to diminish the unwholesomeness of the employments of large bodies of the community, we do an ultimate evil at the expense of both manufacturers and children.

Dropping, however, these considerations, the question has formally and solemnly been put to us, the medical profession, and it has been put to us by the public as well as by Parliament, do we or do we not think twelve hours of labor consistent with the health, a merely tolerable degree of health, of factory children. The profession, so far as it has had an opportunity of speaking out, has replied that it cannot be. We trust that the medical men on the commission, able and upright as we know that they are, will not allow themselves to be seduced by persuasion, by the indifferent tone of the society of masters into which they must be thrown, or by any considerations of what may be palatable to parties or to individuals, but will do their duty fearlessly, and respond to the general sentiment of the profession. The eyes of that profession are on them, and we do not doubt that they will prove themselves its representatives.

We have lost sight of our contemporary, to whom we referred at the commencement of these remarks. He observes that whether we look at the effects of the present amount of factory-labor on the muscles and bones, — the brain and nervous system — the digestive organs — or the organs of respiration, we shall find them alike condemnatory.

It is proved by evidence that deformity prevails among the children, that their growth is retarded on an average nearly two years, that few if any attain the usual degree of robust development or vigor, that many become thin, feeble, and wretched from the day they enter the mill. The witnesses are unanimous in their complaints of the dulness, heaviness, and sleepiness of the children, in the impossibility of keeping them awake at school, or exciting them to further labor, after their labor is done, whilst in many mills corporal punishment is or was regularly resorted to in the latter part of the day, to produce wakefulness, and at this time, too, the accidents from entanglement in machinery usually happen. — The children are subject to convulsions, typhus and other diseases of exhaustion.

Want of appetite, bad digestion, and sallow unhealthiness of aspect are prevalent among the children. In many of the factories no pause is allowed for meals, and the unhappy wretches are obliged to eat in mouthfuls, as they can best snatch a moment for the purpose, while their food, from the lowness of the wages, is at best insufficient to maintain them in vigor, and is often spoiled by the floating dust. Few too escape pulmonary disease either in early, or, if happily they attain it, in advanced life.

The temperature of the factories in many stages of the operations, requires to be kept as high as from 70° to 90°, the average of tropical climates.* Some of the masters have invited an inspection of their mills, and of the children working in them. But our contemporary justly observes that this is the best part of the case. We see at the mills only those who *can* work, we do not see those who are disabled or diseased and *cannot.* Inspect the mills, but inspect also the houses of those who are and who have been in the factories — do justice to the master, but do justice also to the child — in fact, view the whole, and not merely the most or the least favorable part.

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* This, by recent confessions, is an exaggeration. — Ed.

We need scarcely say that there are moral and political considerations, as well as medical, at stake. Our immense manufacturing population is becoming physically degenerate and degraded, the decrepid and deformed begetting their like. They are growing also more vicious and more turbulent, and all agree in the existence of a spirit in the manufacturing districts which cannot be regarded without the deepest alarm. Lord Brougham has stated the state of education in this class is deplorable almost beyond relief. And where is the wonder of all this? Underfed, overworked, without a prospect of bettering his condition, or passing from what is after all worse than slavery, the artisan has no tie to bind him to his country or her institutions, and in every master he sees a sordid and unfeeling tyrant, in every man better off than himself a spoliator or a speculator in his sweat and toil. Government is in his eyes a combination against him, and the whole nation resolves itself into two great classes, the oppressors and the oppressed. — ***Med. Chir. Rev.***

MODES OF ALLEVIATING PAIN IN SURGICAL OPERATIONS.

Besides using every endeavor to tranquillize the patient's mind before an operation, there have been various means proposed to alleviate his immediate sufferings or to diminish the pain of operations. This may be accomplished by the internal exhibition of opium, a large dose being given half an hour, or even for a shorter period, before the operation, and repeated immediately after it. The opium given before the operation is best exhibited in the form of *laudanum*, a full dose of which, not less than 40 or 50 drops, may be exhibited in a common saline draught, as in this form its effects are most speedy, and it is less likely to disturb the stomach.

After a severe operation I usually give *opium* in its solid, crude form, and I think there is great benefit derived from exhibiting it combined with *calomel.* You may in general give two grains of opium with five or six of calomel, in the form of a pill, immediately after the patient is put to bed, and everything about the room has been arranged, so that his repose may not afterwards be disturbed. Calomel seems to have its action on the biliary organs, which are more or less deranged from the mental excitement which the patient has suffered, both previous to and during the operation. It thus diminishes, or even prevents, the accession of any subsequent febrile action.

Often, however, it happens, that notwithstanding the free use of opium, the mind of the patient is far from being tranquillized, and this mental inquietude renders any effects of the narcotics to alleviate the pain of the wound altogether ineffectual. It is, therefore, a great desideratum in surgery to discover a mode by which the pain of surgical operations could be either alleviated or diminished.

Case. — A young woman applied to me some years ago to have a tumor removed from her head, being convinced of the necessity of the operation from the opinions she had received from several eminent surgeons. The tumor was of a very moderate size, was attached to the cranium, but could easily be removed. When I first attempted the operation, the moment the scalpel touched the skin she leaped from her chair, and would not permit me to proceed. In a second attempt she allowed herself to be placed upon a table, and her arms and legs to be secured by an ample number of competent assistants, notwithstanding which, the moment she perceived the instrument touching her, with a convulsive effort she wrested herself from their hands. Her mind now became exceedingly distressed, finding that there was no other mode by which she could get rid of the tumor. At the same time she was strongly impressed with the necessity of the measure. Under these circumstances she repeatedly urged me to contrive some method of securing her, so that the operation might be performed with safety ; and after again and again reflecting on the subject, it occurred to me that if I could induce a state of syncope, there could be no reason why the operation should not be performed while she remained in that state. To this proposal she readily acquiesced, and after every necessary preparation, I opened a vein in her arm while she remained in the erect posture, in order that fainting might be produced with as little loss of blood as possible. It was not, however, until fiftyfour ounces of blood had been withdrawn that she fell into a state of complete syncope. Immediately after this I proceeded to the operation. As you may suppose, it was performed with unusual facility, no blood coming from the wound to interrupt the dissection. After the tumor was removed, and the diseased bone cauterised, she was carried to bed, where she soon recovered from the syncope ; and so unconscious was she that the operation had been performed, that she could not give credit to our assurances until a mirror was brought to her in order that she might *see* a reflection of the wound. An account of this case is published, with some observations thereon, in the 10th vol. of the *Medical and Chirurgical Transactions*, and since that period it has often occurred to me, that the principle of producing a state of syncope before an operation, in order to save pain, might be occasionally adopted with great advantage. There are a number of facts which could be brought forward in order to establish the propriety of such a practice. In the majority of the more severe operations, patients are seldom removed to their beds without being brought, from the quantity of blood removed, and the mental agitation, to a state approaching to syncope; and if this state does not militate against the recovery of patients from such operations, might it not be a rational practice to produce this state previous to the operation, and thus save the pain of it?

I shall have occasion by and by to point out the general fact, that the number of recoveries from operations is usually in proportion to the quantity of blood lost during their performance. I mean to be understood, that in all operations where the patient has lost a considerable quantity of blood, there is generally the least subsequent inflammation of the wound, and fever, the only class of symptoms which usually retard the progress of recovering from operations. The removal, therefore, of blood before an operation in such a quantity as shall produce syncope, would appear to be rather a beneficial than an injurious measure, as far as regards the subsequent healing of the wound. In the reduction of dislocations and of hernia, it is a common rule of surgery to produce syncope before an attempt is made at reduction, either of the misplaced bone or of the prolapsed intestine; and why should not the same practice be adopted in order to save the pain of an operation? So much am I convinced of the propriety of such a practice, that I shall embrace the earliest favorable opportunity of putting it into execution, and whenever I meet with a patient requiring an operation, who has a great dread of pain, I shall certainly produce in him a state of syncope, and in that state perform the operation. Future experience can alone point out the circumstances under which such a measure can with safety and propriety be adopted.

I am not aware that there is any certain mode of producing syncope so effectually and so safely as by the abstraction of a quantity of blood from the arm, though from some ingenious observations of Dr Arnott in his excellent work entitled *Elements of Physics*, he proposes a new mode of producing fainting without having recourse to bleeding. This proposal is, to enclose one or both limbs in a bag or box, from which the air is to be exhausted by an air-pump, and thus, the pressure of the atmosphere being removed from the vessels of the limb so enclosed, such an increased flow of blood would take place into the limb as would produce a state of fainting, by occasioning a corresponding diminution in the quantity of blood in the brain.

I might also notice, that when an operation is performed on a person in a state of syncope, the operator will derive great facility in performing it, from the circumstance that he is not perplexed with hemorrhage; and I remember when performing the operation on the person's head just alluded to, that the dissection appeared just as if it had been made on a body recently dead.

I have met with several individuals who could not make up their minds to submit to operations, from the dread of bodily pain.

Case. — A general officer, had an encysted tumor under the angle of the jaw, which, from the opinions he had received, he was extremely desirous to have extirpated. Repeated but fruitless attempts were made to perform the operation with the usual assistants, for whenever it was about to be commenced, he violently wrested himself from their hands. At last he made up his mind to allow himself to be bound down with ropes. This being done, and even after he had been completely fastened, and the operation was about to be commenced, he endeavored to free himself. The means of security were, however, such as to enable the operator safely to begin the incision through the skin, and as soon as the patient was aware that resistance was unavailing, he became perfectly tranquil, and allowed the operation to proceed, and it was finished in the most satisfactory manner. — *Wardrop's Lectures.*

OBJECTS AND MODES OF MEDICAL INVESTIGATION.

Dr Barlow, of Bath, is the author of a paper thus entitled, and undertaken, with a view 'to discuss the objects and modes of investigation, by which pathological truths can be best established, and sound science most successfully cultivated.' The author earnestly points out the duty of relying on *facts* only, in medical investigations, and fears that too many false assertions are unconsciously put forth by medical writers. He first speaks of those which are made by examiners of dead bodies, of whose labors he thus writes: —

'No facts in medicine are relied on with more confidence than those which dissection displays. Yet the results of necroscopic examination are fraught with fallacies, which it requires great familiarity with the aspects of natural and morbid structure, and intimate knowledge of the changes which take place in them, to detect and avoid. Organic lesions, when far advanced, are sufficiently obvious; but the changes induced by acute disease, and the vascular derangements consequent on inflammatory action, are oftentimes equivocal, and very liable to be confounded with appearances which, occurring after death, have no necessary connection with the vital actions which precede it. On this subject M. Andral's excellent treatise on pathological anatomy affords much valuable and precise information.'

He then gives a brief epitome of Andral's views, and adds,—

'These statements, taken from Andral, suffice to show how much care is required in discriminating the changes produced by disease, from those to which mere physical or chemical influences give rise; and to suggest to those who undertake the examination of dead bodies, a due reserve in pronouncing determinately respecting the cause of death, or of the pre-existing disease, from the appearances which dissection displays. On this subject, much greater accuracy is needed than is generally evinced. For such examination it is too often deemed sufficient for the operator to be expert in the use of the knife. This is a great error, no anatomical process requiring from the person performing it, such matured knowledge, so much familiar acquaintance with natural structure, and so much pathological information. As in chemistry the analysis of mineral waters is said to demand the largest portion of chemical skill on the part of the operator, so in anatomy is the examination of dead bodies, for the purpose of determining morbid lesions, an exercise of skill surpassing what any mere surgical operation can call forth.'

To the following advice we especially and very necessarily call attention.

'In examining the brain, the practice of slicing should be forever abandoned. As this rude and inartificial mode is utterly incapable of displaying the natural structure of the organ, so is it unfitted for demonstrating those lesions which disease induces. Considerable disease may exist, and yet wholly escape detection under the mode of examination generally practised. Whoever has seen Dr Spurzheim demonstrate a diseased brain, must be sensible of the vast superiority of the mode which he pursues. The examination being, in the first instance, thus conducted, the substance of the cerebral mass may then be sliced, in order to ascertain the changes which its internal structure may have undergone.'

Of the discrepancies which exist between nosological characters as set down in books and in actual disease, he observes,—

'So abundant are the curative means laid down in books, that the medical student, who has just escaped from the schools, confident in the resources of his art, conceives he has only to determine the disease in order to subdue it. A very little experience of actual disease, suffices to disabuse him of this notion. He soon finds that the nosological character of disease is seldom, if ever, realized in any individual case. However well marked this may be in its leading features, it is characterized by others, of which his nosology takes no account. Many instances, and of formidable disease, will he meet with, which cannot be referred to any nosological character ; and, if he be ambitious of noting all his cases according to nosological arrangement, precision, in this respect, must be continually purchased at the expense of truth. I, at least, have long, and with oft renewed efforts, endeavored to attain this enviable accuracy, but have never yet succeeded. The cause of this discordancy between nosological character and actual disease is easily discovered. The character is not drawn from any individual instance, but is derived from numbers, and, in this way, a perfect disease is supposed to be depicted. Of this, each feature may no doubt be true to nature, yet the assemblages are very rarely found so combined ; whence nosological character proves rather an ideal exemplar, than a true prototype.' —*Lancet.*

OPERATIONS ON INFANTS AND AGED PERSONS.

Infants are sometimes destroyed by the loss of even a very small quantity of blood, so that every caution should be taken, in operating on them, to limit as much as possible the loss of blood. Hence the danger of applying leeches to young children on parts of the body where the bleeding cannot be readily stopped. On extirpating a nævus, some years ago, from the cheek, the infant expired after losing what then appeared to me to be a very small quantity of blood ; and the same accident once happened in an operation for hare-lip. The wound having bled very freely during the operation, and no means being taken to administer stimuli, the child expired in the evening of the day on which the operation was performed.

The only circumstance of importance to be particularly attended to, when operating on an infant, is the management of the *nurse.* I am convinced that, in many cases where operations on infants have proved fatal, the death has been caused by changes produced in the nurse's milk, in consequence of the mental agitation which, as you may suppose, is often produced in the mind either of the nurse or the mother, when an operation on her young charge becomes necessary. I have seen several remarkable instances of this kind, and similar cases are recorded by authors. The first case that came under my own notice, took place some years ago in an infant from whom I had removed a small, very hard, tumor, which was situated behind the ear. No fever or inflammation supervened ; and after suppuration had been established, and the wound was granulating in the most healthy manner, the child died suddenly of convulsions. On inquiry, I found that the mother had been thrown inio a violent fit of passion late at night, and that she suckled her infant soon afterwards, immediately subsequent to which the fatal convulsion succeeded. In another instance I was sent for in great haste to see an infant in a convulsive fit, and on inquiry found that the nurse who was employed to suckle her infant had been guilty of some misconduct, for which she had been severely reprimanded. Soon after this mental agitation the infant was suckled by her, and that occurrence was followed by the convulsive attack referred to. The late Sir Richard Croft, who had the immediate care of this child, informed me, that he had frequently known similar cases, and that all the mischief was to be attributed to the pernicious effects which moral excitement produces on the *milk* of the nurse, an effect with which, in some degree, every one is familiar. Mr North in his treatise on the 'Convulsions of Infants,' makes allusion to this circumstance, and has mentioned examples of it.

Ever since the occurrence of the cases now mentioned, I have considered it of great importance to arrange, previous to an operation on an infant, how the nursing was afterwards to be conducted, and have taken care that neither the mother nor the hired nurse should be agitated by the screams of the child, or that if they be at all alarmed by them, the child shall not be allowed to suckle until all effects of such agitation have ceased.

Operations on the youth or adult are more dangerous than on the infant or on aged people, and the risk arises from the greater chance of consecutive inflammation. In them, therefore, it is particularly necessary to go through a system of preparation, and not to have an operation performed hastily if necessity do not demand one, but to wait until a favorable period arrives.

With regard to old people, it is a mistaken opinion, that a person is too old to submit to an operation. The operation for cataract, cancer of the lip, and similar affections, I would much prefer performing at the most advanced periods of life, and my reason is, that these operations create in old people much less inflammation, while to secure their success it is essentially requisite that little inflammation should follow, and that the wounds be cured by adhesions.— *Wardrops' Lectures.*

INFLUENCE OF VINEGAR IN LESSENING THE URINARY SECRETION.

Mr John Dalton, in a course of experiments for comparing the quantity of food taken with that of the different secretions, found on one day a great defalcation in the amount of urine which he passed, and for which he could discover no cause, unless his having taken at dinner-time a teaspoonful or two of vinegar, could account for it. To be satisfied of this, he took, some days after, an ounce of vinegar in four equal portions during one day; and the effect was a very great diminution of urine on that day, amounting to fifteen ounces less than the average quantity, (48½ oz.) Mr D. says that there did not appear to be any increased effect in any other secretion, as a compensation for this diminution.—*Memoirs of the Lit. and Philosophical Society of Manchester.*

GASTRO-INTESTINAL CONCRETIONS.

When a person has taken a great quantity of chalk mixture, and even magnesia, concretions have sometimes been formed. There is a preparation in the Museum at St. Thomas's, where the intestines of a child are completely blocked up with magnesia: it has the appearance of hard mortar regularly cemented, and is said to be magnesia. It is therefore necessary to be on your guard, when you are exhibiting chalk, or magnesia, not to give it too long without ordering a purgative, so as to carry it away. There is a case on record of a person who had taken magnesia a long time, and suffered a great deal, and then suddenly discharged a large quantity of powder of magnesia from the intestines. Sometimes it is a fact that from magnesia or chalk the intestines become completely blocked up. The carbonate of iron will have the same effect. It is necessary, when you are giving this medicine in any quantity, to see that the bowels are regularly opened. You may give an immense quantity if you attend to that point. I related a case where a man took nearly two pounds of it every day for some days, when laboring under tetanus (of which he got well by-the-by), and he regularly discharged large lumps of carbonate of iron: they regularly came away, as they would from a horse, covered with mucus, and gave him no pain whatever; but then he had a clyster, to prevent any mischief. If a person do not attend to his bowels, a great accumulation may take place in the rectum, and the individual may be obliged to pick it out; but this must be bad management. I have known circumstances of this sort occur two or three times. I had another patient laboring under tetanus, to whom I gave this remedy, and he also got well; but if the nurses did not give him purgatives properly, he suffered pain in the rectum — the rectum was distended and became dry, and he was obliged to pick the iron out. A shovelful was found in his bed, which he had amused himself day and night in removing. I recollect an obstinate hysterical girl, and also the case of a lady, in whom a similar accumulation took place; but in these cases it arose from the patients' refusing to let us know the state of their bowels. It is right to know that if you do not pay proper attention, such things may occur. Dr Barlow, of Bath, mentions a case where sulphate of iron pills were discharged a year after they were taken. This is another general circumstance, showing that articles may remain for a long period in the alimentary canal before they are voided. Substances which are liable to concrete should not be given unless you attend to the bowels. Dr Prout told me that he was sent for, a year ago, to see a lady from whom some odd things had come away. She had suffered excruciating pain, and it turned out to be lark's bones. This lady had been in the habit of eating larks (some ladies are fond of larks), and she munched the bones. She was a lady of title, but in consequence of this lark eating she suffered great pain. The discharge was sent to a celebrated chemist, at Tooting, in order that he might ascertain what it was. He first discovered it to be bones, and afterwards, from their figure, they were ascertained to be the bones of larks.

It was the fashion a few years ago (and I believe it is not yet quite out), for people to stuff themselves with whole mustard-seeds: they were thought to keep the bowels very open; some said it was a good practice, and others distributed pamphlets and tracts recommending it. Last year a gentleman came to me with various odd affections of the alimentary canal, which I could not well understand. Two days afterwards, he brought me a quantity of seeds that had come away, and I could not imagine what they were, till at last he told me he had been eating mustard-seeds, but had not eaten any for six weeks. He had given up the practice before he came to me, but they had accumulated in him, and actually remained for six weeks; and therefore his danger arose from that. We know that they generally come away whole. One gentleman told me that he sowed some after they had passed through him, and they produced just as good sallad as if he had not used them. Fashionable people have always some whim about them — they are always taking something; but I believe that the day of mustard-seed has pretty well passed by. Mustard-seed will accumulate just as other things.

Lond. Med. Gaz.

INFIRMITIES AND CONSTITUTIONAL PECULIARITIES OF MEN OF GENIUS.

Dr Madden in an interesting work on the above subject, in alluding to the biography of Burns, has the following observations.

'It is rarely the lot of a wayward child of genius to have a Currie for his historian, and hence is it that frailties, which might have awakened sympathy, are now only mooted, to be remembered with abhorrence. It is greatly to be regretted that eminent medical men are not often to be met with qualified, like Dr Currie, by literary attainments, as well as professional ability, for undertakings of this kind. No class of men have the means of obtaining so intimate a knowledge of human nature, so familiar an acquaintance with the unmasked mind. The secret thoughts of the invalid are as obvious as the symptoms of his disease : there is no deception in the sick chamber : the veil of the temple is removed, and humanity lies before the attendant, in all its truth, in all its helplessness, and for the honorable physician it lies — if we may be allowed the expression — in all its holiness. No such medical attendant, we venture to assert, ever went through a long life of practice, and had reason to think worse of his fellow-men, for the knowledge of humanity he obtained at the bed-side of the sick. Far from it, the misintelligence, the misapprehension, that in society are the groundless source of the animosities which put even the feelings of the philanthropist to the test, are here unknown ; the only wonder of the physician is, that amidst so much suffering as he is daily called to witness, human nature should be presented to his view in so good, and not unfrequently in so noble, an aspect.'

From these remarks the reader may gather the principle on which the author of the volumes before us treats the mental peculiarities of Pope, Cowper, Byron, Burns, Johnson, and other illustrious literary men whom he incidentally notices. We know few themes more interesting. Men of letters are in general so deplorably negligent of their health, that living on, as many of them do, to a good old age, they cannot but be a standing paradox to many reflecting minds. 'Surely,' says Ficinus (as quoted by Mr Madden), 'scholars are the most foolish men in the world ; other men look to their tools ; a painter will wash his pencils — a smith will look to his hammer — a husbandman will mind his plough-irons — a huntsman will have a care of his hounds — a musician of his lute ; scholars alone neglect that instrument which they daily use, by which they range over the world, and which by study is much consumed.'

There is a curious table given by Mr Madden, which shows how strikingly the longevity of literary men is influenced by the particular line of study in which they are engaged. The names and ages of twenty eminent persons are set down in each of twelve tables, according as they are natural or moral philosophers, medical authors, and so forth ; their ages are then cast up, an average is struck, and the result is as follows : —

	Aggregate Years.	Average Years.
Natural Philosophers.	1504	75
Moral Philosophers.	1417	70
Sculptors and Painters.	1412	70
Authors on Law and Jurisprudence.	1394	69
Medical Authors.	1368	68
Authors on Revealed Religion.	1350	67
Philologists.	1323	66
Musical Composers.	1284	64
Novelists and Miscellaneous Authors.	1257	62½
Dramatists.	1249	62
Authors on Natural Religion	1245	62
Poets.	1144	57

Whence we may very clearly infer, that those pursuits in which the imagination is most largely exerted are the most unfavorable to longevity; and the average life of the poet is proved to be about one-fourth shorter than that of the natural philosopher. The fact being thus established, the author goes into the reasons of these diversities in the duration of life, and accounts for them very ably and ingeniously. We regret that our limits do not allow us to follow him regularly through his interesting pages; but there are a few miscellaneous remarks and passages which struck us in our perusal of the work, that may not be inappropriately extracted.

Of the sketches of character presented to us by Mr Madden, that of Cowper is the one which pleases us most. It is the only approach to a rational biography of that amiable and highly-gifted poet, that has yet been offered to the public. The author divests poor Cowper's malady of the obscurity and mystery in which it has been involved; and shows how terribly all the symptoms were aggravated by the counsel and conversation of injudicious people. The leading events in the history of Cowper's sufferings, so far as they concerned his health, and consequently his happiness, may be summed up in a few words. From his earliest years, he was delicate in constitution and timid in disposition. Excessive application to professional studies in the Temple increased the delicacy of his health; the nervous system and the cerebral organs became disturbed or disordered in their functions; and his natural timidity merged into a morbid sensibility, which wholly disqualified him for the active duties of that profession in which he had been so improperly placed. The derangement of his health having obliged him to go to the sea-coast, he visited Southampton, and there his imagination converted the sudden appearance of a burst of sunshine into a visible manifestation of the presence of the Deity. The terror of a public appearance at the bar of the House of Lords, so injudiciously urged by his friends, quite broke down the little aptitude that was still in him to mingle in the business of public life. He became the victim of hypochondria. The vision at Southampton never was forgotten : it was a warning which he had neglected, repentance — remorse — despair — were the dreadful consequences. He always maintained that there was no hope for him here or hereafter. The wonder, indeed the miracle, is, that the poor monomaniac could have achieved such admirable performances, and so contrasted, as the Homer and the Hymns, during the short intervals of his melancholy disorder. — *London Medical Gazette.*

CASES OF SUDDEN DEATH, CAUSED BY SPONTANEOUS LESION OF THE LUNGS.

Recorded by M. Ollivier, of Angers.

Although founded only on two cases actually observed by M. Ollivier, the paper we are about to analyze contains materials well worthy the consideration of the medical jurist, to whom the causes of sudden death are a study of the most essential importance.

'The majority of cases of sudden death, (says M. Ollivier,) are examples of cerebral hemorrhage, rupture of the heart or aorta, or spontaneous laceration of an aneurism of these organs. A few cases are, however, on record, of sudden death occasioned by a lesion of the lungs. In some rare cases, this event has taken place in individuals in whom the heart and great vessels have been found filled with an *aëriform fluid* spontaneously developed within those organs. In some respects allied to this, is, perhaps, the following case, which presents many interesting circumstances.

'CASE 1. — *Sudden Death produced by a spontaneous Emphysema of the Lungs.* Ganichow, a shoemaker, of small stature, very muscular, had from early life been affected with general rheumatic pains, the origin of which, he attributed to the moist situation in which he resided. Except occasional attacks of this disease, his health was habitually good, although from time to time he complained of embarrassed respiration. His breath was, as he said, short, and he was readily 'blown.' He was, moreover, of violent temper, and extremely agitated by the least contradiction. On the 17th August, 1832, he quarrelled with his brother-in-law, and in the midst of their altercation received a blow. Much stronger than his antagonist, he rushed forward to strike him down, but was prevented by the by-standers. Constrained to master his passion, he went to his home, distant about 150 paces. Scarcely had he reached his door, when he fell on his face and died. Two neighbors ran up, and lifted the body. The face was extremely pale, and covered with an abundant sweat. The circumstances which preceded this sudden decease, being such as to countenance the idea that it resulted from the blow given by the brother-in-law, I was charged by the Procureur du Roi to proceed to the examination of the body, which was done next day.

The body was very rigid, but displayed no marks of external violence. Cadaveric lividity on the posterior part of the trunk and limbs. Abdominal organs perfectly sound. A small quantity of red wine was found in the stomach. The lungs, free from adhesions, were emphysematous on several points of their surface, and on the opening of the chest did not collapse in the least degree. Their tissue was in such a state of expansion, indeed, that they puffed up the intercostal muscles as if the chest was too small to hold them. Pressed slightly between the fingers, a strong crepitation was heard, different from that produced by any frothy liquid in the bronchial ramifications. They contained little blood, and none escaped from sections into their surface. The trachea and principal bronchial divisions contained no frothy mucosities. There was blood, partly liquid, partly coagulated, in the heart, the ventricles of which were a little thicker than natural. No lesion of the aorta or great arterial and venous trunks. The brain and its membranes presented no notable vascular injection. The cerebral substance was firm; the lateral ventricles contained no serosity. There was no appearance of putrefaction in the body.

M. Ollivier did not hesitate to attribute the man's death to spontaneous emphysema of both lungs, an event which probably occurred from the violent efforts of inspiration he made during the paroxysm of rage to which he abandoned himself. The second case of sudden death was caused by a pulmonary apoplexy under the following circumstances: —

Case 2. — Bronel, æt. 56, of robust constitution, in perfect health, and leading a sober and regular life, was forced to quit his house for want of money to pay the rent. On the 11th February, 1833, he met his landlord in the street, on seeing whom he burst into a transport of passion, and running forwards to attack him, made a few hurried steps and fell into his arms. In compliance with the instructions of the Procureur du Roi I opened the body on the following morning. The cerebral substance and membranes and the spinal chord were free from disease. The left ventricle was rather hypertrophied; the lungs, of a violet color, were of a remarkable degree of consistence and hardness, and much harder than in the normal state. The surface of incisions practised into their substance, was granulated and of a deep-red colour. The pulmonary tissue was so impregnated with blood, that a little frothy fluid could alone with difficulty be pressed out of it. This state existed in four-fifths of the left, and in two-thirds of the right lung. On the surface of the right lung were several vesicles full of air, large, transparent, each of the volume of a cherry, elevating the pulmonary pleura, as is seen in partial emphysema of the lung. All the abdominal organs were perfectly healthy. This man during his life never complained of his chest.

Such is a condensed view of the second case M. Ollivier adduces. Both are, we repeat, of interest to the medical jurist, who cannot pay too much attention to every variety of sudden death.

Archiv. Gen.

CASE OF A CYST CONTAINING A HUMAN FŒTUS, IN THE MESENTERY OF A BOY.

The visceral hydatids developed in the cavity of the pelvis may be confounded with a crowd of tumors too numerous to name, and which, moreover, have been repeatedly studied. But there is one especially deserving attention from its extreme curiosity, and which has been described in a periodical, now difficult to be procured, namely, the '*Recueil des Mémoires de la Faculté de Médecine de Paris,*' and entitled, case of a 'cyst containing a human fœtus developed in the mesentery of a boy of fourteen.'

'Amédée Bissieu, a son of M. Bissieu, of Vernueuil, department de l'Eure, was born in 1790, of a young, well-formed, healthy woman, who had previously borne another child, well-formed and of good constitution. On the night during which his mother supposes he was conceived, one of the alarms then so frequent in France threw the town into violent agitation, called the inhabitants tumultuously to arms. During her pregnancy, Madame Bissieu experienced some mental afflictions, as well as frequent indispositions; nevertheless her labor was propitious. It was supposed that during labor an unusual quantity of water escaped through the vagina. Immediately after birth the infant was confided to a nurse, who finding him weakly and unhealthy, almost dispaired of bringing him up. Returned to his father's house, he complained, from his first lisp, of pain in the left side of the chest and belly. The volume of these parts was so considerable that it was feared he labored under organic disease; but the size was, nevertheless, so variable, that nothing was done beyond accommodating his clothes to these variations. However, as he grew up these fears subsided, but the boy's body continued thin; he continually complained of slight pains in the side; his appetite was fantastic and irregular, and he frequently suffered from indigestion. On dressing him one day it was perceived that two of his left ribs were more elevated and prominent than the others; but this was attributed to the effects of a habit he had contracted of sucking the right thumb, and inclining his body to that side. Still less attention was excited by the circumstance, as at this time the lad was distinguished for a degree of gayety, vivacity, and intelligence, beyond his age. He was sent to a boarding-school at Rouen, where having spent 18 months, he was suddenly attacked, on the 13th Nivose, year 12, with acute pain in the side and left hypochondrium, with continued fever, with exacerbations, and a feeling of oppression. Great swelling of the pelvic region also occurred. He was bled and purged. The fever continued and the swelling made progress. On the 7th day of his illness, M. Blanche, the surgeon, perceived distinctly in the abdomen, a hard and very painful tumor extending along the false ribs to the crest of the ilium, rounded from side to side, and of the size of a large melon. Calming treatment was employed, but the pain did not diminish until an abundant purging of fœtid purulent matter had taken place. The marasmus, however, proceeded, and after some months useless treatment he was sent home. On his arrival, M M. Guerin and Bertin Desmardelles recognised the tumor. A continual cough soon occurred, accompanied by purulent and fœtid expectoration, and a purging of fœtid matter also, in the midst of which, six weeks before his death, was found a parcel of hairs rolled up on themselves. He died on the 23rd Prairial. an. 12, six months after the attack at Rouen.

Autopsy.

'The opening of the body took place next day, in the presence of M M. Guerin and Bertin Desmardelles. These physicians discovered in the left hypochondrium, below the spleen, a large, thick, membranous sac, adhering to all the surrounding parts, and especially to one of the large intestines, which they presumed to be the colon; and in this cyst, amidst purulent, thick, and yellow matter, two masses were of nearly equal volume, situated transversely before the vertebral column, one applied to the other, but, nevertheless, quite distinct. Of these two masses, one placed inferiorly, was composed of a large handful of tangled, felted hair; around this were two little parcels of hair, like what passed by stool six weeks before death. The other mass, situated higher, consisted of an oblong, fleshy, and bony substance, covered with skin. At one of its extremities was seen an imperfect head, with hair, teeth, a deformed nose, a kind of orbit at one side, and an ear at the other. At the opposite extremity was a limb-like appendage, ending in some tongue-shaped points armed with nails. Lastly, from the centre of the mass proceeded a thick, short ligament, inserted into the parietes of the cyst.

'Deeming the case deserving of more minute researches, M M. Guerin and Desmardelles lifted the fleshy mass out of the pelvis, and took it away, together with the stomach, spleen, and a part of the large intestine. They ascertained, then, that there existed no trace of sexual conformation, external or internal, and that the sex of Amadée Bissieu was indisputably masculine. Lastly, they found on dissecting the rest of the body, that the liver was very voluminous, and the lungs whitish and infiltrated with pus. Twenty-two days after this, the body was exhumed, in order to verify the facts now related. M M. Delzeuzes and Brouard, who were charged with the investigation, found no trace of any sexual organ but those belonging to the male. The bladder was cautiously separated, the vesiculæ seminales discovered; the rectum examined internally and externally, and nothing extraordinary found. Lastly, the external parts of generation were carefully inspected, and the testicles, vasa deferentia, and penis, were found to be perfect in formation, but small in size.'

Remarks on the Case.

A fact so extraordinary excited universal attention, and M. Planche forwarded the preparation to the faculty of Medicine of Paris, and I (said M. Dupuytren) was commissioned to report on this great anomaly in the laws of nature.

The first fact I ascertained relative to the position of the fœtus, was, that it lay in a cyst of the transverse mesocolon, which had only communicated very recently with the intestine, through the destruction of a partition by which they were separated. In continuing this examination, I ascertained that the organized mass contained in the transverse mesocolon had many points of resemblance to a fœtus, but that it offered also numerous peculiar dispositions, some of which depended essentially on vices of conformation, while others appeared to be dependent on changes of form successively effected by time and the sojourn of the mass in the mesocolic cyst. The dissection of the mass was, however, the surest mode of determining the nature of this production. I did so with great care, and I discovered the trace of some organs of the senses, a brain, spinal chord, very voluminous nerves, muscles degenerated into a sort of fibrous matter, a skeleton, composed of a vertebral column, a head, a pelvis, and the rudiments of almost all the limbs. Lastly, in an umbilical chord, very short, and inserted into the transverse mesocolon, beyond the cavity of the intestine, an artery and vein ramified in each of their extremities in the fœtus, and the individual to which it belonged.

The existence of these organs sufficed certainly to establish the individuality of this organized mass, although in other respects it was destitute of organs of digestion, of respiration, of the secretion of urine, and of generation. But the absence of these parts, at most, could only render it one of the monstrous fœtuses destined to perish at the moment of birth.

We shall not dwell on suppositions, more or less problematical, advanced respecting the presence of this fœtus in the body of the young Bissieu. We shall only remark, that it is by no means rare to see twins born adhering by the back, belly, head, or by several parts at once. A degree of compression, more or less strong, exercised by the mother's organs on the soft embryos, either during conception or soon after it, may produce these monstrosities. In other cases, not extremely rare, the twins are so identified, that many organs are deficient in each, and are replaced by common organs, which serve for the existence of both individuals. In the first case, the monstrosity depends on a mechanical cause, in the second it depends on a primary fault in the organization of the germs. One of these explanations being admitted, the sex of the individual who so long acted the mother to the fœtus in question, becomes altogether indifferent. The fœtus has progressed, but as extra-uterine conceptions do. In fact, to whatever part the fecundated germs are attached, their mode of nutrition is the same. They derive from all, by means of proper vessels, the nutritive fluids they require. They are developed, and increase in size, until the time ordanied by nature for their expulsion, and if they cannot then be expelled, they putrefy and turn into adipocire; they dry, and becomes ossified, or else they vegetate until their presence, by irritating the adjoining parts, determines the formation of abscesses, and procures their discharge. Such is what seems to have happened in the case before us.

To ascertain the degree of importance of this phenomenon, its exact cause should first be known, and then this importance would be determined by the light thrown on the natural process, and occasional irregularities of generation. However, putting these considerations aside, the case does not the less merit our attention, from its rarity and interesting phenomena.—*Dupuytren's Lecture.*

LISFRANC'S TREATMENT OF AMAUROSIS.

First of all, we should ascertain whether there are any symptoms of inflammatory fulness and activity in the eye or head;—as a matter of course, such cases require depletion; when, however, we have reason to believe that the disease is one rather of debility, Lisfranc strongly advises us to direct our attention in an especial manner, to stimulate the frontal and other branches of the fifth pair of nerves by means of repeated blistering over the eyebrows and temples. Should this fail, we must endeavour to excite the torpid organ by acting immediately on the ciliary nerves, any irritation of which is speedily propagated to the opthalmic ganglion and the origin of the trigeminus. This is most effectually done by the application of stimulants to the cornea; and of those stimulants the nitrate of silver in substance is the best. The inferior segment of the cornea is to be lightly touched, till we perceive a whitish cloud;—the eye is then to be immediately washed with water. Considerable pain is felt; the whole apparatus of the eye is put into a state of so increased activity, that on the morrow a stranger might suppose that our patient labored under acute opthalmia. This treatment induces sometimes vomiting; and as it always occasions temporary contraction of the pupil, it must not be employed when there is a tendency to this evil. The operation requires to be repeated several times.—*Journ. Complem.*

QUININE SUCCESSFULLY USED AGAINST TOOTHACHE.

Toothache is not unfrequently periodical, and will continue to harass a patient long, if the usual anti-odontalgies are only used; many a sound tooth has been extracted, without the least relief to the suffering. Quinine, in such cases as are obviously intermittent, will almost always cure the pain as rapidly, and as effectually, as it does an ague. In short, all diseases in which there are periodic invasions and remissions, even in hectic, and in intermittent fevers dependent upon urinary disorders, the bark seldom fails to relieve for a time, if it cannot effect a cure.
Archiv. Gener.

CHRONIC INFLAMMATION OF THE NECK OF THE UTERUS, CURED.

M. S., aged 34, delicate and nervous; mother of five children. Had miscarried some time before, during the sixth month of pregnancy; the placenta had been retained for several hours, and much hemorrhage had taken place before it came away. Ever since, she had suffered from a constant uneasiness in the hypogastrium, increased by exercise, or before each flow of the catamenia; and she had also a troublesome leucorrhœa. These symptoms continued for a twelvemonth, and then became aggravated; she applied to M. Dance in September 1828; her condition was as follows. A sense of heat, weight and dull pain in the hypogastrium and about the seat, extending to the groins, and much increased on any motion; she was confined almost constantly to bed; when she attempted to walk, she was obliged to bend her body forwards, and advance only step by step; a thick, yellowish, and viscid discharge from the vagina. Her distress was much increased before each appearance of the catamenia. Examination with the speculum confirmed the presumptive diagnosis of chronic inflammation of the neck of the womb, with numerous tubercular irregularities and tendency to organic changes. The *treatment* consisted in repeated application of a dozen leeches to the upper and inner parts of the thighs — subsequently two large caustic issues were established in the loins, and these were kept open for the space of three years, during which time the disease existed. Emollient poultices to the hypogastrium, hip-baths and mild injections were also employed. The patient was kept in a horizontal posture for the first year, and quite apart from her husband. In the second and third years she was permitted to go into the country during the fine season, but was enjoined not to omit any part of the remedial measures. Her diet consisted exclusively of milk, farinaceous food, eggs, and vegetables. The symptoms were very little alleviated for the first 12 months, and had not the patient been endowed with astonishing firmness and constant hope, her medical attendants would have left her, with the persuasion that the disease must inevitably become worse and worse. Fortunately they did not; for the second year brought most agreeable changes; by the end of it she was able to rise, walk about, and to enjoy her food. The cure went on progressively, and she was restored to almost perfect health after four years' suffering. The neck of the womb and ostincæ were still, however, carunculated, but not painful on pressure.

The preceding case suggests some very useful and important hints to medical men, that, in certain complaints, they ought not to allow themselves to become impatient from want of success at first; but that, after they have made a correct diagnosis and laid down a suitable plan of treatment, they should persevere undeviatingly, and without being discouraged. — *Archiv. Gener.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I.—REMARKS ON THE TYPHUS FEVER OF THIS CLIMATE.

By E. HALE, JR, M.D.

So large a portion of our medical literature is received from Europe, that it becomes a question of some importance, how far the diseases to which our climate is subject, conform in their character and phenomena to those described by foreign writers under the same appellation. This inquiry possesses peculiar interest at the present time in reference to the subject of Typhus Fever. Some of the most popular of the recent publications on Typhus have assumed it almost as a matter of course, that in the different varieties of climate where it is to be found, it possesses a sufficient uniformity of character to constitute it, everywhere, the same specific disease. While others have rather taken this for granted, than attempted to prove it, Dr Boott has gone into an elaborate examination of the epidemic fevers of this country, for the purpose of ascertaining to what extent they conform in their character, and especially in their origin, to the typhus fever of Great Britain. In doing this, he has taken very little notice of that form of fever which is universally known by the name of typhus, in New England; an omission so important, that had it been otherwise than unavoidable, it might be regarded as a serious defect in his very interesting work. But we may well ask, where he should have found materials for such an examination of our typhus, as he has made of other American fevers. We have general treatises on Fever by New England authors; in which, it may be supposed, that the disease which prevailed about them, was the exemplar of the fever described. But we hardly know an essay, either as a distinct treatise, or a paper in a periodical journal, which professes to exhibit the peculiar features of the typhus fever which often prevails to a greater or less extent throughout New England; and only very few notices of individual cases, or collections of cases in particular localities.

The reason is obvious. Typhus fever, as it is seen in New-England, is rarely, or never, epidemic; although it occurs more or less almost every year in nearly every part of the country. Every physician, therefore, sees something of it; but no one is furnished with peculiar opportunities for the investigation of it, so as to make him feel competent to instruct his neighbors; and the attention of none is called to it as an object of curiosity to medical men at a distance.

It is not from consciousness of any peculiar knowledge of typhus, above that of others, nor from possessing superior advantages for observing it, that I am induced to offer some remarks upon it. On the contrary there are others, whose opportunities and observations are much more extensive, if their leisure did but prompt them to undertake it. But I regard the subject as one of so much practical interest, that notwithstanding the paucity of my materials, I am disposed to offer some suggestions, rather than to discuss it fully; and if the effect should be to excite others to pursue the inquiry, by more extensive and careful observations, not by hypothetical speculations, one good purpose will at least have been accomplished.

I must here remark, that by typhus fever I mean just what others mean by the same term. Speculative distinctions form no part of my object. There is a disease frequent among us, which every body recognises by the name of typhus fever, as distinctly as he recognises an apple by its appropriate designation; although, if we attempt to define and restrict the use of the term, hardly any two perhaps will be found to agree in the extent of its application. I shall confine my remarks chiefly to a comparison of our typhus with the descriptions of Armstrong and Southwood Smith, because these writers are more extensively read and have a greater influence upon the opinions and practice of, at least, the younger part of the profession among us, than any others.

According to Dr Armstrong, whose matured opinions, as published by his friend and biographer Dr Boott, I take in preference to those contained in the volume published by himself, 'typhus has commonly a regular progression of symptoms; a stage of depression, of excitement, and of collapse, each in the more favorable cases succeeding the other at somewhat regular intervals of time.' This is regarded as the common course of typhus. In the worst cases, however, this progressive development is interfered with. The stage of depression is so rapidly followed by that of collapse, that the patient is beyond the resources of art before he is seen. 'There are, of course,' says Dr Boott, 'intermediate shades of mildness and severity in its character: but for the sake of illustration, three examples may be selected, as exhibiting the ordinary phenomena of this formidable malady.'

'It begins with a cold stage, which varies in degree and duration; being sometimes slight and protracted, or very severe, like that of ague. As this declines, the skin, on the reaction being fully developed, becomes frequently hot and dry; the face flushed; the eye bright and injected; the respiration hurried; the pulse full, hard, and quick; the tongue furred, but moist; and signs of local disturbance occur in different parts, probably in the head, indicative of acute inflammation in the brain or its membranes. These symptoms, if the inflammation existing in the brain or elsewhere, does not speedily lead to a fatal termination, last four or five days; and then the appearances of ardent fever begin to decline; the heat to fall; the respiration to become more feeble; the strength, which at first was not materially affected, rapidly to sink; the pulse to lose its force, and to become soft and compressible; the lips and cheeks to assume a leaden or purplish hue; and the tongue to become brown; a change which is attributable to the specific affection of the mucous membrane of the bronchia, and to the effect produced through it upon the blood, which not being duly arterialized, fails to maintain the energies of the brain and nervous system; so that the muscular and vascular systems ultimately become debilitated from the defect of their natural excitant.'

In another form the excitement which succeeds to the cold stage, is less intense; the fever is not so fully developed; the heat not so high: the respiration not so hurried; the pulse not so full and quick; and the local signs of disturbance not so urgent. These milder symptoms last seven or eight days; the tongue remaining moist and furred, either white or yellowish, and redder than natural at the tip and edges, with more or less cough and huskiness of voice. At length the same change as in the preceding example begins to take place, but at a later period by three or four days; the heat falls, the strength sinks, the pulse loses its force, the tongue becomes dry, and the same duskiness of complexion follows from the defect of decarbonization in the blood, and from the impression made through it upon the general system.

'In a third form the excitement is very transient. Instead, as in the two former examples, of a well-developed fever, lasting from three to four, or from six to eight days, there is in this variety scarcely as many hours of imperfect excitement, and this is rapidly succeeded by that collapse which is indicated by a cool skin, a soft feeble pulse, a weak respiration, a dark dry tongue, a prostration of strength, a weak voice, a feeble cough, a dusky lip and cheek, from the immediate accession of a severe bronchial affection; so that in this formidable variety the last stage of the other examples is almost coeval with the onset of the disease.'*

Somewhat analogous to this is the view of fever given by Dr Southwood Smith. 'The evidence,' he says, 'is as complete as observation during life, and inspection after death can make it, that a morbid change does take place in a certain number of organs in every case of fever, from the most trivial intermittent to the most alarming continued fever, from the mildest typhus to the most malignant plague; that at the two extremes of this scale, and at all the intermediate gradations of it, there are certain organs which are always affected, and that the affection in all is similar.'

'The identity of the organs is inferred from the indications they give of disordered function during life; the identity of the affection is inferred from the similarity of morbid appearances which they exhibit on examination after death.

'The organs affected, are those which constitute the nervous system; those which constitute the circulating system, and those which constitute the systems of secretion and excretion. The spinal cord and the brain; the heart and the arteries, especially their capillary extremities; the secreting and the excreting organs, which, in fact, are composed, essentially, of the capillary extremities of the arteries; the secreting and the excreting extremities of these arteries, especially as they terminate in the external skin, and in the mucous membranes which form the internal skin, this is the chain of diseased organs: derangement in the nervous and sensorial functions; derangement in the circulating functions; derangement in the secretory and excretory functions, this is the circle of morbid actions.' * * *

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* Memoirs of the Life and Medical Opinions of John Armstrong, M.D. by Francis Boott, M.D. p. 188.

'The order of events then is, first, derangement in the nervous and sensorial functions; this is the invariable antecedent; secondly, derangement in the circulating functions, this is the invariable sequent; and, thirdly, derangement in the secreting and excreting functions; this is the last result in the succession of morbid changes.'*

The different degrees of intensity in these several derangements, in some one or more of the organs subject to them, constitute according to Dr Smith, all the different varieties of fever. In this way we have synochus and typhus; each both mitior and gravior; and each with predominant cerebral affection, and thoracic affection, and abdominal affection, and mixed affection, according as each part is subjected to the greatest local disease accompanying the general fever.

If we were to regard disease merely as a matter of philosophical curiosity and inquiry, we might, perhaps, be well enough satisfied with these views of fever. But when we regard it as a matter of practical care, as something with which we are personally concerned, and which we must treat, we do not always find it so easy to recognise in the individual cases, all these essential features of the disease. Disease in the sick room is never marshalled into classes, and orders, and genera, and species. We remember a young pupil at fencing, who having learned the regular defences, challenged an untutored friend to combat; and when his antagonist fairly hit him at the first blow, he complained that he did not use the regular cuts. So it is with the young practitioner of medicine; and but too often with the older practitioner also. He learns from his books how to treat each form of disease; but when he enters the sick chamber, the first case he meets with perplexes him with phenomena which he cannot recognise as characteristic of either of those forms.

We thus have one reason why we may not expect to find in our typhus fevers an entire conformity to the typhus described by European authors. Another reason may be found in the fact already alluded to, that our typhus is rarely or never truly an epidemic disease. It is sufficiently established, that any disease when it prevails as an epidemic, presents its peculiar symptoms in a more intense degree than the same disease when it only occurs sporadically. How far either or both of these circumstances are a sufficient explanation, or whether on the other hand, there is an intrinsic difference in the nature of the disease, I shall not stop to inquire. Practically, the fact undoubtedly is, that typhus fever as we meet with it in New England, often presents phenomena, in their obvious aspect, widely different from those delineated in either of the foregoing descriptions ;- and which can be reconciled to them only by remote deductions or theoretical speculations.

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* A Treatise on Fever, by Southwood Smith, M.D. Boston edition p. 28.

There is a sense, indeed, in which fever, in many of its characteristics, is everywhere the same disease, under all its modifications, and in every variety of climate and situation. But as a subject of medical treatment it is not so. A disease may still be fever, it may even be typhus fever, and nearly in the same stage, and yet require a very different, or even an opposite course of treatment. Our present concern with fever is as a matter of practice ; as we find it in the sick chamber, demanding from us the best means of cure.

The first deviation of our typhus from that of Armstrong and Smith, which I shall notice, consists in the absence of most of the prominent marks of disease. There is no cold stage followed by heat and excitement ; no marked depression of the sensorial functions ; and no local affection of any prominence or importance. The symptoms are all, or nearly all, negative. The patient feels that he is sick ; but is at a loss to know what ails him. He has no headache, nor dizziness, and sometimes no consciousness of any loss of mental vigor ; no pain in any part ; no considerable thirst ; the appetite may be lost, at other times it is said to be good, although it appears that little food is taken ; but this little is taken with tolerable relish, and there is no loathing of food, and no suffering from indigestion ; the bowels are either regular, or a little costive ; the skin is dry, but not remarkably hot ; the pulse is at first moderately quickened, and becomes quicker from day to day ; the countenance exhibits more unequivocal marks of disease, being heavy and expressing anxiety and depression ; the sleep is generally, but not always, disturbed, and the disturbance commonly increases as the disease advances. The patient, if a laboring man, keeps at his work for several days, and only perceives that he is more fatigued than usual; if a gentleman, he meets his physician at the door, apologises for troubling him with so slight a matter, and from day to day converses pleasantly and cheerfully with him. At length, when he finds that he is truly sick, he wonders that he recovers so slowly; and unless he has previously known his physician well, so as to have the fullest confidence in him, it is a chance if he do not suspect him of unfaithfulness, or incompetence for not curing him more rapidly.

This is the *slow* fever, of which we often hear, and which we occasionally see. It continues for a considerable length of time, three or four weeks, acknowledging little respect to remedies of any kind, and in most cases, spontaneously but slowly disappears. In some instances, after continuing in this manner for some time, it suddenly assumes more positive symptoms, and hastens to a termination, sometimes favorable; more often, fatal. In some rare cases, it proceeds slowly to a fatal termination, without any great change of character. Such a result is so unfrequent that we have not often opportunity to ascertain the morbid appearances by dissection. The case of the celebrated Dr Spurzheim, appears to have been of this sort; and in that, no morbid change of structure was discovered on examination after death.

It may perhaps be said, by those who insist upon the existence of local disease in all cases of typhus, that in these cases the inflammation or congestion exists, but is concealed, so as not to exhibit itself by the ordinary symptoms. The phenomena of inflammation are indeed so well known, that its presence is not so often assumed, where it does not show itself, either by its symptoms during life or by characteristic morbid appearances after death. But congestion is a more tractable agent in the supposed production of disease, and is often assumed upon very slight evidence, not to say, upon no evidence whatever. I can readily understand what is meant by congestion when a preternatural fullness of the vessels is spoken of without positive inflammation. But to speak of congestion in the brain, when there is no sense of fullness in the head, and no appearance of fullness exhibited in the countenance, by any other *direct* indication, is to use language without any distinct idea attached to it. To *suppose* a cause, merely to explain given phenomena, without evidence of its real existence, is bad philosophy; to *act* upon such a supposition, is worse practice.

Again it may be said, on the other hand, that the cases we have described are not typhus fever. But if it be not typhus, it has neither a name nor a place in medicine. The mere name, indeed, is in my view of little consequence; for I have long thought that the less we have to do with names of diseases, the better. For the disease itself, if there be no place for it in description, there will be none in the minds of many physicians. If a physician, especially if he be a young practitioner, is called to such a case, and is not prepared to form a true estimate of its real character, he will naturally underrate its importance, and regard it as a slight affection, which will be easily and speedily removed. It will be the least of the evil, that when his prognosis proves to be incorrect, he endangers the confidence of his patient in his sagacity and skill. Trusting to the lightness of the complaint, he may suffer the best, perhaps the only, time for active treatment to pass by, without adequate remedies; or, what is much more likely, and a much more serious evil, expecting to remove the disease by a stroke, he may use very active remedies, which make a much more severe impression upon the strength and ability of the patient, than upon the disease.

The treatment of this form of fever is in a high degree embarrassing; and it is even doubtful whether any treatment has any direct tendency to remove the disease. This may be partly, in conformity to the common notion, because the disease makes its approach so insidiously that it is firmly fixed in the system before the treatment is begun. But it is much more from the very nature of the complaint. There is no enemy in the field to combat; or if there be one, he is in ambush. There is much of truth in the remark of Southwood Smith, that although inflammation is not the primary affection in fever, in the order of events, it is the primary affection as regards the treatment, '*if it be not the sole affection that admits of treatment.*' Now, as the cases before us give no evidence of inflammation, they require no active treatment, and admit of none. Although this remark appears here as the result of an inference, I am not willing to rest it upon that basis. I repeat it therefore, as the result of careful observation, not of my own merely, but of all observation, that active treatment in this form of fever, never does good, but invariably does harm. It exhausts the patient without removing the disease; and therefore it renders him less able to throw it off by the inherent energies of his own constitution.

Has the physician, then, nothing to do in this disease? or shall he leave the patient to get well as he best can? Certainly, he has much to do. First, he has to keep himself from doing harm; secondly, he has to keep the patient from doing harm to himself; and thirdly, he has to keep the attendants and friends of the patient from doing harm to him. Not only is active treatment bad, as we have said, such as copious bleeding, powerful emetics and cathartics, but all treatment with any reference to a direct removal of the disease will be inefficient and troublesome. Antimonials, and salines, and all the class of medicines designed to equalize the circulation, do but irritate and disturb the patient; while tonics and every device to restore or excite the reduced strength, invariably increases the fever. There are, however, certain incidental symptoms to be watched and removed. If the stomach is disordered, and it perhaps in most cases is so at the outset, a gentle emetic may be given to correct it; (not, let it be remembered, with the vain design of breaking up the fever). If the bowels are costive, or the dejections are morbid, mild cathartics are required. A light, farinaceous, and milk diet; and cooling, soothing drinks. If there be a tendency to pain in any part, the first indications of inflammation must be carefully watched, and met by remedies appropriate to the existing circumstances of the patient, by bleeding, leeches or blisters, as the state of things requires or permits. Above all, the patient is to be kept quiet, avoiding every thing that has a tendency to excite or to call into energetic action any function of the body, or any faculty of the mind; always remembering, that however mild the disease may at present appear, any imprudence may suddenly throw the patient into a state of great danger.

It is obvious that to do all this effectually will often demand a degree of skill and attention, little if at all, behind what is requisite to manage a case of much severer suffering in a straightforward inflammatory disease. Few patients will consent to remain so long without medicine, or with so little, as this form of fever demands. It then becomes necessary to consider what medicine will do him the least injury, and at the same time satisfy his craving for medicine; and this not for the mere purpose, as is sometimes 'slanderously reported' of the profession, of retaining the patient, but for the more laudable object of saving him from doing himself harm. I know nothing better for this purpose than the liquid acetate of ammonia, to which may occasionally be added a little, (provided it be truly *a little*) of opiated tincture of camphor or spirit of nitrous ether. The mild vegetable mixtures answer the same indication, and when there is any tendency to diarrhœa or to irritation of the bowels, or of the urinary organs, they tend to allay it. They serve also as a suitable medium for other medicines whenever they are properly called for. Whatever medicine is given for this object, should be given at stated intervals with the same regularity, as if the immediate object were in itself more important. Yet care must be taken that the intervals be not too short; and this caution ought also to apply to more active remedies. The patient must have rest, and over-doctoring is a sad disturber of the internal peace of man. The frequent repetition of antimonials or dovers powder, day after day, is enough to drive a well man into a fever; and even spiritus mindererus, or mucilage of gum Arabic, if too often repeated or too long persevered in, might throw him into a state of nervous irritation, dangerous to the physician at least, if not to the patient.

The following case may serve as an illustration of this form of fever.

W. B., a handcartman, called me after about a fortnight's illness. He had continued at his work for three or four days after he began to feel somewhat unwell; and then took some medicine before he called a physician; and had changed his physician twice. He had no pain, and had not at any time had much; had had no chills; no considerable heat; no nausea, nor loathing of food; little appetite; bowels costive, except when moved by medicine, which had been done once in two or three days; tongue covered with a thin white coat; pulse 80. He lay in bed; he could not tell why, but still he felt unable to sit up more than a few minutes at a time. I explained to him that he had a fever, and that time and patience must be his cure; and gave him a little rhubarb and calomel to move his bowels gently every day, (eight grains of rhubarb and two and a half of calomel were sufficient) and a mixture of liquid acetate of ammonia with spirit of nitrous ether, and opiated tincture of camphor, every four hours, except in the intervals after taking the cathartic before its operation. The discharges from the bowels were of a healthy appearance. After three or four days the bowels were sufficiently open without medicine; and afterwards for a day or two there was a slight diarrhœa, for which he took chalk mixture. His diet was liquid, and mucilaginous; his drink cooling and also mucilaginous. In about ten days he was able to walk about the house; and I left him.

The case of the late celebrated Dr Spurzheim, as I have already intimated, was of this sort. It is too fully in the recollection of most of our readers, to render it necessary to quote it fully. But it may not be amiss to refer to it as a further illustration. It will be remembered that Dr S. continued his lectures for nearly a week after the disease, which proved fatal to him, began; and that it was nearly another week before, either he himself, or his physicians and friends thought it seriously alarming. It went on, however, constantly increasing in severity, but at no time exhibiting any very marked symptoms, except the delirium which came on a few days before his death, or presenting any prominent object for the application of remedies; and he died at the end of about four weeks. The body was examined; all the great cavities were opened, but no morbid appearances were discovered which would serve to explain the pathological character of the disease.

It was my intention to notice some other modifications of typhus fever, in which the phenomena vary considerably from the descriptions of the writers I have referred to; but this paper is already becoming too long, and I must relinquish my original design of speaking of these in detail, and content myself with adding a few cases in which these different forms of the disease are more or less exemplified. Fever, without obvious local inflammation, is not the only case in which typhus begins without a distinct chill. The same thing may happen in any of the other forms of the disease. Neither is it essential to the character of this disease, that all the local affections, mentioned by Armstrong and Smith, should occur successively, even in those cases in which some one or more of them are apparent. Thus we may have affection of the head, without inflammation of the mucous membrane of the lungs, and without diarrhœa; or we may have either of the latter without the former; or, again, we may have any two of these, without the third. And either or all of these may come on, either slowly and silently without any appreciable cause, or suddenly from obvious exposure; in either case without the formal ushering in of disease by chills and heat, &c, which the descriptions of fever lead us to expect. I speak here of affection of these different parts, as manifested by symptoms during life.

Case II. — *Head Affection.* — I was called to a child, not quite two years and a half old, on a Wednesday evening, who had been growing sick since the Saturday previous. The appearances, both from the present symptoms at the time of my visit, and from the history as given by the mother, indicated so much disease in the head, that I was at first doubtful whether the case would not prove dropsy in the head. But when these symptoms were somewhat relieved by leeches to the head, and a mild operation of calomel upon the bowels, it became manifest that it was a case of typhus fever. The affection of the head continued in some degree; but there was no stupor, nor delirium, nor dilatation of the pupils to the last. The pulse was very quick; the skin hot and dry; the teeth and lips were covered with a thick dark sordes. There was however, no difficulty of breathing, and no cough in any part of the disease. There was no diarrhœa, and no indication which could be extracted from such a child, of pain or suffering in the abdomen. The bowels acted with sufficient readiness, when cathartic medicine was given, and at no other time. The first discharges were fœtid; afterwards they became healthy. The child died on the Monday following my first visit, nine days from the attack. The body was examined twenty-four hours after death. The head, in the upper and back part, exhibited marks of great inflammation. The anterior lobes of the brain were healthy. About the vertex the dura mater adhered strongly to the cranium, the vessels near that part were much distended, and divided portions of the medullary substance underneath were studded with bloody points to a remarkable degree. There was very little water and no appearance of inflammation in the ventricles. The cerebellum was greatly inflamed. The vessels were distended and there was a considerable effusion of serum at the base of the brain. The inflammation extended down the spinal cord, as far as it could be examined from the head. There was an appearance in the convolutions of the cerebellum, which I have never before noticed, though I do not know how far it is singular, of *distinctness* in the several portions. The whole corical substance seemed made up of a collection of small cords loosely confined together; and these cords were easily separated, and detached from each other, and from the medullary substance beneath them.

The lungs were entirely healthy. The bronchia were carefully examined; but no mark of inflammation was found in the mucous membrane, nor in any other part.

The stomach was healthy. The serous coat of the intestines, and of all the other abdominal viscera was healthy. The intestines contained a small quantity of matter of healthy appearance. The mucous coat was healthy, except a slight thickening and redness in two or three places, until within a few inches of the cœcum, where were extensive marks of inflammation, large patches of glands were much enlarged, and the whole coat of the intestine thickened, with great redness, and some appearances of incipient ulceration. The large intestines were healthy. The mesenteric glands, especially those corresponding to the diseased portion of the intestines, were much enlarged and very red, without ulceration or induration.

Case III—*Thoracic Affection.*—I saw the patient in this case only in consultation, and at the post-mortem examination; but am kindly permitted by the attending physician to make use of it here.

E. R., an interesting girl of ten years, complained of headach with some distress at the stomach and languor, for which she was taken to the physician; the symptoms not being so severe as to confine her. She had an emetic, and other remedies, and was relieved entirely of the headach and distress, but the languor continued. After about a week, the physician was called to her. She had then a quick pulse, and other symptoms of fever; but without pain except rather a dull pain in the side without cough. This was wholly removed by a blister, and she afterwards had no pain in any part. The fever continued, and for a week or ten days rather increased. It then declined. The pulse was reduced to 80; the tongue was moist and nearly natural in its appearance; she had some appetite for food, and slept well. About the end of the fourth week, while appearing thus convalescent, and without any apparent cause, she was suddenly seized with great difficulty of breathing, accompanied by violent commotion in the action of the heart. The distress from this cause was great, but still was unaccompanied by pain. The face, lips and tongue became livid; there was occasionally a little expectoration of bloody mucus. The discharges from the bowels were of healthy appearance, and there was at no time any tendency to diarrhœa; the urine was sufficiently abundant and natural. She continued in this state, with only some slight relief at intervals, for five days, and died in the fifth week of the disease. She was entirely free from delirium, except a slight wandering in one or two nights of her greatest distress; and for a few hours before death there was an unusual clearness and brilliancy of mind, exhibited in peculiarly interesting conversations with her mother and friends.

Examination 24 hours after death.—The head exhibited strong marks of inflammation; especially in the upper and back part. The dura mater adhered, but not strongly; the vessels on the surface of the brain were much injected with blood, and the medullary substance was filled with bloody points upon its divided surfaces. These appearances were not altogether wanting in the anterior lobes, but were much less there than in the middle and posterior. In the ventricles there was no unnatural appearance. The cerebellum exhibited considerable marks of inflammation, and also the spinal cord, as far as it could be examined from the head; but there was no effusion. There was the same appearance in the convolutions of the cerebellum as in the preceding case, but in a less marked degree. In the thorax there was a small quantity of serum in the left side, about four ounces; and about the same quantity in the abdomen. The lungs on both sides adhered to the chest; the adhesions did not appear to be recent, but the circumstances of the examination prevented our determining this point with entire confidence. There was no hepatization; but both lungs were remarkably engorged with blood. The mucous membrane of the bronchia was in a high state of inflammation; of a deep red color; and the bronchia filled with bloody mucus.

In the abdomen, the serous membrane was natural. The spleen was enlarged. The contents of the intestines were natural. The mucous coat of the duedonum near the pylorus, for about two inches in length, was of a dark red color in its whole circumference, and thickened. Two patches of glands in the ilium, at a little distance from the cœcum, were enlarged and somewhat red, but not greatly inflamed; and near the entrance of this intestine into the cœcum, the whole circumference was in a high state of inflammation, which extended a little distance into the colon. There was no ulceration. The mesenteric glands were in some parts red, and a little enlarged; but not greatly so.

Case IV.—*Abdominal Affection.*—I am indebted for this and the two following cases to another friend, with whom I saw the patient in consultation.

Mrs S., a little more than two months after a confinement from which she had not fully recovered, fell gradually, and almost imperceptibly, into a state of fever with diarrhœa, but without any other prominent symptoms. She had no chill, no pain in the head, nor elsewhere—no cough, no difficulty of breathing; and even the tongue was nearly or quite natural, through the greater part of the disease. The diarrhœa was constant through the whole sickness. There was no pain in the abdomen, even on heavy pressure, except at one time, and then it was immediately relieved by a blister. The discharges were of healthy appearance the greater part of the time, but in the last two or three days they were made up chiefly of large quantities of blood. At two or three different times there were such appearances of amendment, as gave hopes of recovery; but on the whole, she grew worse, and died after about six weeks. Towards the close of life there was inclination to delirium, but not of that kind which gives the idea of active disease in the head. To our great disappointment, an examination was not permitted.

Case V.—*Cerebral and Abdominal Affection.*—J. D. had a mild fever with headach and diarrhœa, which was relieved early, and in about a week he appeared convalescent. He was then exceedingly desirous to leave his bed, and received permission from his physician to sit up half an hour. He took advantage of the permission, and sat up nearly the whole day. He was in consequence thrown back into a violent fever, with delirium, and profuse and obstinate diarrhœa, from which he recovered with great difficulty. During the whole sickness there was no cough, nor any other indication of affection of the respiratory organs. I quote this case chiefly as an example of the facility with which a mild fever may be converted into a very severe one, by only a moderate degree of imprudence. It furnishes also an illustration of typhus fever, without an affection, so far at least as manifested by symptoms of one of the sets of organs which Armstrong considered essential to the character of typhus.

I have called these cases *cerebral*, *thoracic*, &c, in reference to the symptoms, rather than to their whole pathological character: for, as I have already said, it is my purpose, in this paper, to speak of typhus, as the phenomena appear in the sick room, without going into a consideration of its pathology, except as it is exhibited incidentally. The local affection is not always, nor commonly, constant through the whole disease. In the case above, which I have called thoracic, there was first a slight affection of the head and then of the chest, which were both relieved, and then three weeks later a severe affection of the chest, which was speedily fatal. I might give many cases of severe pain in the head in the early part of fever which was removed in a short time; but generally without arresting the fever. The disease goes on for two or three weeks, sometimes more, with a pulse of from a hundred to a hundred and twenty, or even more; dry, hot skin, coated tongue, &c; but with very little positive suffering, except from thirst and restlessness, and these are often not urgent. The patient while lying in bed, with a pulse of more than one hundred, will sometimes fancy himself well enough to be up, and it is only when he makes the effort, that he is convinced of the extent of his prostration. Sometimes, but much more rarely, the general febrile symptoms subside more speedily after the relief of the local affection.

In most of the cases which I have quoted, the fever made its attack in a silent and insidious manner. I have selected these, because it was my object to present some modifications of typhus, which do not appear prominently, if they appear at all, in the descriptions referred to in the beginning of this paper, and in which, nevertheless, it is important that we should early make a right prognosis. Such, however, is not the only mode of attack of typhus among us. Although this is not unfrequent, it is more common to see our fevers begin with a tolerably full array of chills, and heat, and pain. I subjoin one case of this sort.

Case VI.—A. M. aged 19, a servant girl, was attacked suddenly with chills, pain and other symptoms of fever. At the end of a week she left her place of service and returned to her friends, and for the first time came under medical attendance. She then complained of severe pain in the head, with pain in the side, difficulty of breathing and cough; pulse quick and somewhat hard. She was bled and blistered, and in other things a very mild course of treatment was pursued. The symptoms were at times somewhat mitigated, but were never removed. The cough continued; the pain in the head was followed by raving delirium. The bowels in all the earlier part of the disease were only moved by cathartics. But in the fourth week, diarrhœa with involuntary discharges came on, though still without tenderness of the abdomen, and in four days more she died.

Examination.—The head exhibited strong marks of inflammation in the upper and back part; none in the ventricles. The cerebellum and upper part of the spinal cord were also highly inflamed. The cerebellum exhibited the same appearance of threads easily detached, as that described in *Case* II. but somewhat less distinctly marked. The mucous membrane of the bronchia was highly inflamed. The lungs in other respects were healthy. In the abdomen the spleen was very large. Patches of glands in the ilium near the cœcum were enlarged, and the mucous membrane about them very red and much thickened. We discovered no distinct ulceration, although the inflammation seemed to have approached nearly to that state. In all the other portions of the intestines, the mucous membrane was in a healthy state, as were also the contents of the intestines. The mesenteric glands in the part near the inflamed portion of the ilium were enlarged and inflamed, but not ulcerated. The other viscera were healthy.

In conclusion I may express the hope that the investigation of typhus fever, by pathological observations carefully made, will engage the attention of the profession among us more than it has done in times past. We have too long been accustomed to regard fever as a disease upon which little or no light was to be thrown by studying the morbid appearances observed by dissection. And since we have begun to learn otherwise, the observations have been too few, to enable us to draw any general decisive conclusions from them; or to settle the question fully, how far our fevers are identical with those of similar name and character in Europe. Some pathologists in England, and still more Louis and others in France, have recently set us an example, which if followed with sufficient precision and care, and especially if pursued with a temperate abstinence from theoretical speculation and premature deductions, can hardly fail to lead to useful results. Will not some one of your correspondents, who is able to do it, give us some account of the observations of Louis on this subject and their results, and then tell us how far similar phenomena have been observed in our own fevers the present autumn.

ART. II.—SINGULAR MALFORMATION OF THE HEART.

BY DR RAY, OF EASTPORT, ME.

THE subject of this case, for three months after birth, appeared to be as thriving and healthy as most infants. Nothing peculiar was observed about him, except a slight blueness of the ends of the fingers, the eyelids, root of the nose, mouth and tongue — so slight indeed, as, in the absence of other symptoms, to excite no apprehensions. When nearly five months old, he began to suffer paroxysms resembling, more than any thing else, severe colic, attended by a dry suffocative cough, and an unceasing cry which would now and then swell into a scream. The pulse became quicker and fuller, drops of sweat stood on the scalp and forehead, the blueness of the parts just mentioned, became deeper; he laid in his mother's lap, turning his eyes around as if imploring assistance, and altogether presenting an appearance of intense suffering. In the intervals of the paroxysms, the child was as well and cheerful as ever, and for a time his general health seemed to be but little affected. At first, the paroxysms occurred daily — about the middle of the afternoon — but soon became very irregular in their appearance, varying from two days to a month, and lasting from thirty minutes to three hours. They steadily increased in severity and duration with the child's age, and he was longer in recovering from their debilitating effects. Never was blueness observed in any other than the parts abovementioned; the rest of the body had the natural color of children at that age. Except an occasional coldness of the hands, the temperature was natural, and no unusual means were required to keep him warm. No irregularity of the pulse was ever detected, and during the paroxysms, the action of the heart, as ascertained by placing the hand on the ribs, was only stronger and quicker than in the intervals. When he was first taken sick, he weighed twelve pounds, but after this he increased very little in weight, and at his death was very much emaciated, not weighing more than thirteen pounds. Four months before his death the head began to enlarge, and when he died, it had spread laterally, and its capacity had considerably increased, though there was no separation of the bones. His appetite was pretty good, and his bowels, though a little costive at times, were otherwise in good order. The perceptive and reflective faculties were not in the slightest degree affected. His attention was just as quick, and his countenance as animated, as if he were enjoying perfect health. Of musical sounds he was remarkably fond, and they engrossed all his attention whenever he heard them. He died 6th June, 1833, aged thirteen months.

Autopsy. The heart and lungs being removed from the body, the first thing that arrested my attention, was the extraordinary size of the ascending aorta, which together with the arch, was dilated to four times the capacity of the descending portion. The foramen ovale was open, and both ventricles communicated freely with the aorta. This communication was produced, not merely by a deficiency in the interventricular septum, but the aorta was placed astride the ventricles, and more extensively attached to the right than the left. Having explored the right ventricle without meeting with any pulmonary artery, I directed my attention to the ductus arteriosus which was observed to be open, and a probe being introduced, this vessel was found to be about an inch in length and terminating in a cul-de-sac in the wall of the left ventricle. About midway two vessels, each of much larger size than itself, were given off, directly opposite each other and corresponding to the right and left branches of the pulmonary artery, whose place was here supplied by the ductus arteriosus. The heart was of the usual size; the lungs exceedingly small and in a state of complete congestion. The vessels of the peritoneum and of all the abdominal organs were deeply injected, giving all the parts a dark purplish hue. The vessels of the brain and its membranes and the scalp were also engorged, and though the brain was removed with the utmost care, not less than eight ounces of blood escaped before it was entirely freed from its connexions. The arachnoid was deeply and universally injected; it could be easily stripped from the convolutions, and in several places a whitish albuminous fluid was effused beneath it. The plexus choroides looked as if it had been soaked in blood. Between one and two ounces of water was found in the ventricles and at the base of the brain. The cineritious substance of the brain was softer than in the healthy state and of a deeper color. The fibrous portion, when cut into, presented numerous bloody points.

There are several points in this case particularly worthy of the attention of pathologists. I do not know that others precisely like it have not been observed, though I do not happen to have seen any such recorded, yet it cannot help being a matter of surprise how the existence of life for so long a time could have been possible. Not only was there as complete a mixture of arterial and venous blood as could possibly take place, but considering the small size of the lungs and the ductus arteriosus, a very small portion of the blood could have been arterialized at all. A continuance of the natural temperature of the body and color of the skin, is therefore still more surprising, for if over malformation of the heart could be expected to produce an absence of these conditions, it certainly might have been in this case. And yet, considering the share of health which this child enjoyed and the age at which he died, it can hardly be doubted that the quantity of respiration, small as it was, was by no means reduced to the minimum compatible with the temporary maintenance of life. This case also shows plainly enough, if farther evidence were wanted, that the degree of cyanosis, is but a slight indication of the extent to which the imperfection of the heart is carried, and obliges us to look for some other cause of this phenomenon than a mixture of venous and arterial blood; for if the common theory respecting it be true, here there existed the most favorable conditions for its production. Dr Crampton has related a case* unattended by cyanosis, where the aorta was placed astride of the ventricles as in this; and Breschet has met with an instance of the left subclavian arising from the pulmonary artery, without the color of the parts supplied by its ramifications being at all effected. It is therefore impossible to regard the presence of venous blood in the arteries, as accounting satisfactorily for the blueness of the skin, which so commonly accompanies communications between the right and left cavities of the heart. On the contrary, wherever this appearance has taken place, whether connected with any mixture of arterial and venous blood or not, observation, we believe, has invariably established the fact of contraction or dilatation of the right cardiac orifices or cavities — a condition very liable to produce venous congestion in the capillaries. When we consider for a moment a venous system engorged and overloaded with blood, and its capacity exceedingly increased by the long continuance of this condition, and bear in mind the natural color of the venous blood, it is easy enough to conceive, we should think, how the most perfect cyanosis should be the result.

It is remarkable too, that instead of the sluggishness and torpidity generally noticed in this kind of cases, this child always evinced more than ordinary wakefulness, animation, and activity — an instance of the astonishing power by which nature sometimes accommodates herself to apparently the most unnatural of circumstances and conditions. The pathological appearances in the brain were no doubt the result of that passive hyperemia that pervaded all the other organs, though to an observer unacquainted with the history of the case, they would most likely have been attributed to active inflammation. It shows very forcibly the necessity of caution in pronouncing upon the anatomical characters of meningeal inflammation, for however doubtful some of them have been proved to be, yet few have called in question the genuineness of complete and universal injection conjoined with albuminous effusion, and great facility of stripping the membranes from the surface of the convolutions. With appearances like these before our eyes, apparently so similar, yet really dissimilar probably, if we could see the whole, to those produced by very different causes, we are impressively warned not to disjoin the study of symptoms from that of pathological anatomy, but to bring the results of each in illustration of those of the other.

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* Dublin Medical Transactions, Vol. I, part 1.

ART. III. — AUSCULTATION.

WE believe the principal reason why auscultation is not more generally employed among us to be, that an elementary knowledge of the signs revealed by this mode of diagnosis is not more generally made known. A proof of this is the fact that auscultation is most relied upon by those who know most about it, and that the modern education of a medical man implies a familiarity with this method of exploring diseases. Its great use, undoubtedly, is in exploring thoracic diseases, and the following account, condensed from an article from the pen of M. Andral, in the 'Dictionnaire de Medecine & Chirurgie Pratiques,' briefly indicates the correct method of applying auscultation to these diseases.

In examining by auscultation the organs of respiration, we should observe the phenomena which occur under the following appellations : —

1. The respiratory sound.
2. The voice.
3. The morbid sounds which take the place of the respiratory sound heard in the state of health, and which are called râles (or rhonci.)
4. The phenomena of the cough.

I. Vesicular respiration called also pulmonary expansion and respiratory sound, is that peculiar murmur which is heard on applying the ear to any part of the parietes of the thorax in contact with the lungs of a person in health, and which evidently arises from the free entrance of air into the bronchia and their ramifications as far as the pulmonary vesicles. This sound is varied by several circumstances besides those indicating morbid changes, and principally by the age of the individual. It is most forcible and loud in infancy, when the air-cells are smallest and most numerous; and becomes feeble in old age when the density of the lungs is at its maximum, and the surface offered to the air is of less extent in consequence of the minute vesicles being converted into larger and less numerous cells. It is feeble in emphysema of the lungs, the disagnostic symptom of which disease is the remarkable contrast which is found to exist between the sonorousness of the thorax, on percussion, which is as great or greater than natural, and the extreme feebleness of the respiratory sound. The facility with which the respiratory sound can be heard in the breathing of different individuals, is very various, the intensity of this sound being much greater in some individuals, under apparently the same circumstances.

The parts in which the respiratory sound is heard the most readily and the most constantly, occur in the following order.

1. In the hollow of the axilla.
2. In the space between the clavicle and the anterior edge of the trapezius muscle.
3. In the interval between the clavicle and the breast.
4. On the back, between the vertebral column and the internal edge of the scapula.

Its intensity in health, is always perceived more strongly in the anterior than in the posterior parts.

In a morbid condition of the respiratory organ, the respiratory sound is modified as to its *intensity* and as to its *nature.*

1. In consequence of some obstacle hindering the entrance of air into a portion of the lungs, the respiratory sound diminishes or ceases in that portion of the pulmonary tissue. At the same time, in those parts of the lung where this obstacle does not exist, an opposite phenomenon is observed, and the respiratory sound is found to be increased in intensity, and resembling that of infancy. When this *supplementary respiration* is discovered, it indicates, most certainly, some obstacle existing either to the circulation of the blood, or the circulation of the air. Sometimes this obstacle arises from tubercular depositions, and sometimes from diseases of the heart, affecting in an intermediate manner, the function of respiration.

2. Instead of being modified in its intensity, the respiratory sound is sometimes altered in its nature. It can no longer be heard in the pulmonary vesicles but only in the bronchial tubes.

This is *bronchial respiration*, and presents the following varieties:

First. The respiratory sound is found to be increased to an exaggerated *puerile* respiration. This takes place sometimes in those parts of the thorax where, in consequence of hepatization, percussion gives a flat sound.

Second. In the second variety the respiratory sound resembles that produced by blowing into the open end of a tube of wood or metal, closed at the opposite extremity.

Third. In the third variety the modification of the respiratory sound resembles that puffing, which is produced in blowing out a candle.

All these varieties of bronchial respiration, are no doubt owing to modifications in the state of the bronchia, dependent on the alterations of the pulmonary tissue, produced by causes operating on itself or upon the enveloping pleura.

Care must be taken not to confound bronchial respiration with the 'frattement' distinguished by M. Regnaud, in cases of pleuritic effusions, by laying the patient on his face.

The *second* alteration in the nature of respiration, is that called *cavernous respiration*, and occurs when a cavity has been hollowed out in some part of the lungs. Nineteen times out of twenty this cavity is produced by the softening and evacuation of tuberculous matter. If the cavern is filled wholly or partly with fluid we hear a particular râle. This is the most common condition. But if the cavity is empty, we hear a very marked blowing noise, which is *cavernous respiration*. It may be pure or more or less mixed with râle. It may be permanent or alternate with the râle. If it be permanent, it denotes an attempt at cicatrization. During expiration this sound is more marked, and then, Laennec has remarked, it seems like a person blowing into your ear. A very large dilatation of the bronchia produces a modification of respiratory sound somewhat resembling *cavernous respiration*.

II. The air in penetrating to the vesicles may meet with fluids, or other obstructing causes, diminishing the calibre of the tubes and vesicles. Then the respiratory sound is replaced by a noise which Laennec has designated by the general term râle.

The râles are like the respiration, divided into *vesicular bronchial*, and *cavernous*.

1. The first variety is perceived when the air cells or minute bronchial tubes contain fluid, or are compressed in some other

way. It is heard in the first degree of pneumonia, in hæmoptisis, and œdema of the lungs. This is the *crepitant* râle, so called from its resemblance to the sound produced by the deflagration of common salt, or the noise produced by compressing between the fingers, a portion of the lungs of a healthy subject. It may easily be confounded with some varieties of bronchial râle, in simple pulmonary catarrh. In many cases of pneumonia the crepitant râle is followed by a mucous râle. There is a distinction then, in the *vesicular* râle into *humid* and *dry*.

2. In the *bronchial râle* there are two varieties; one of them is owing to a mucous collection in the bronchi. This is the mucous râle of Laennec, and is accurately compared to the rattles in the larynx of the dying. It may be called the *humid bronchial râle*. The other variety may be designated as the *dry bronchial râle*, and appears to be occasioned by the narrowing of the calibre of a bronchus, so that the air can with difficulty effect a passage. There results from this state a variety of sounds, such as that resembling the snoring of sleep, the vibration of a bass cord, and sometimes a prolonged sound, which Laennec has very exactly likened to the cooing of turtles At other times there is a whistling, more or less sharp, which Laennec also believes can be produced by the obstruction of a small tube by a plug of viscid mucus. Nothing is more common than to see these different varieties of dry bronchial râle exhibit themselves simultaneously, or alternately with each other, in persons affected with chronic pulmonary catarrh.

3. As the *humid vesicular râle* insensibly runs into the *humid bronchial râle*, so does this latter confound itself with the third species of râles, the *cavernous*. This râle is marked by a sound resembling that produced by blowing soap-bubbles with a pipe, and is hence called gurgling, '*gorgouillement*.' This sound, when plainly apparent, is by far the best diagnostic sign of a tuberculous cavity in the lungs. But it is not always the case that this sound is heard when there are caverns. Very often, in such cases, there is only heard a modification of simple *mucous râle*, or approaching to a *sub-crepitant râle*. But in this case, if the patient takes a deep inspiration the cavernous râle is made manifest. The same result may also occur by auscultating the patient immediately after his having coughed.

3. When the chest of an individual in health is subjected to

auscultation, while speaking a resonance of the voice is heard, varying in different individuals, and in different parts of the chest. In those of large chests and grave voices, this phenomenon is frequently observable throughout the whole extent of the thorax; while in other individuals it can only be observed when the ear is applied to the back, opposite to the large bronchial tubes.

There are three modifications of this sound in disease, which are connected with three different anatomical conditions.

First, *bronchial voice*, or broncophony, consists in a peculiar resounding of the voice, produced in induration of the parenchyma of the lungs, or in simple dilatation of the bronchi.

The *second* modification is the *cavernous voice*, called also pectoriloquy, because it exhibits the striking phenomenon of a voice appearing to proceed directly from the breast, as if it had been formed within the lungs. Distinct pectoriloquy can only proceed from tuberculous caverns, hollowed in the substance of the lungs; but every cavern does not necessarily produce this phenomenon. It is very easy for those little experienced in auscultation, to mistake broncophony for pectoriloquy; and it is therefore more easy to determine the existence of a cavern by the auscultation of the respiration, cough and râles, than by that of the voice. In ausculting the voice, it is particularly necessary to note the difference between the sound of the voice on the two sides of the thorax, for there are some individuals whose voices have naturally so strong a resonance, that an inexperienced observer might mistake it for evidence of a tuberculous excavation. The best observers, even, have at times been led into this mistake.

The *third* modification which the voice presents, is that called hægophony, or *bleating voice*, and takes its name from the bleating of a goat, which it resembles. It is the trembling sound produced by the voice passing through a fluid medium, and indicates pleuritic effusion.

4. From auscultation of the *cough*, may be derived several useful signs. This is especially true of two cases. The first is when some obstacle prevents the free entrance of air into the pulmonary vesicles. In this case, when the individual coughs, there is heard a peculiar resonance of the voice, which appears to *finish* in the large bronchial tubes, and which may be called *bronchial cough*. Laennec has called this tubular cough. It is heard in some cases of dilatation of the bronchi, and it ordinarily accompanies bronchial respiration.

The other case is when there is suspicion of some excavation in the substance of the lungs. In this case, when a person coughs one of two things occur. Either each effort of coughing is accompanied by a '*gargouillement*' more manifest than before, or when this is not heard, there takes place at the time of coughing, in the lieu of it, a peculiar sound, which announces that the phenomenon is produced in a cavity of greater or less dimensions, in which each movement of inspiration or expiration agitates a body of air more or less considerable. This modification of the sound produced by coughing, is the *cavernous cough*, and is varied by the various conditions of the excavations in regard to the disposition of their parietés, their portions, their contents, and the mode in which the bronchi open into them.

The respiratory murmur, the different râles, and the cough, are sometimes accompanied during their production by the sound denominated by Laennec *metallic tinkling*. The condition of things producing this sound, is a mixture of air and liquid in a cavity of variable size. It is compared to the sound produced by a metallic vase struck by a pin; or rather to that produced by a piece of gravel falling into such a vase. This sound may be heard when there exists a tuberculous cavity of the lungs, and when there is pleuritic effusion combined with a gaseous fluid. This latter proceeds from a perforation of the parenchymatous texture by an eschar, or by the rupture of the walls of an abscess. Laennec believed, that in these cases the production of metallic tinkling was owing to the vibration of a layer of gas in contact with a surface of liquid. This is the best explanation which has been given.

In ausculting the sounds produced by the action of the heart, our attention is to be directed to the impulse of the beats—their extent—the noise which accompanies them, and lastly their mode of succession or rhythm.

In the normal condition, the action of the heart produces no appreciable shock to the ear applied to the chest. Each of its beats produces two sounds—one clear, sonorous, like the stroke of a pump-valve, corresponds to the contraction of the auricles; the other which succeeds, is more dull and prolonged; it is isochronous with the arterial pulse, and corresponds to the contraction of the ventricles. Then follows a moment of repose, and afterwards is renewed the action by the auricles, then that of the ventricles, and so on. In certain cases, it has been found that each contraction, both of auricles and ventricles, is accompanied with a sound denominated the *bellows-blast sound*, which has been exactly compared by Laennec to the noise produced by blowing a bellows, and also to that of the re-action of a rasp or file, which it sometimes accurately imitates. The causes under the influence of which this sound is produced, are not well ascertained. It is not always owing to contraction of the orifices of the heart. An analogous sound has also been heard in the arteries. In some cases this has been accompanied with organic disease of the heart, but in other instances there was no sign of this affection. In the present state of the science, no satisfactory reason can be given of this arterial sound.

The extent to which the beating of the heart can be heard, is small in health. But this is somewhat varied by different conditions, as to age, shape, flesh, &c. The heart's stroke is rendered more evident by the existence of a cavern, by pulmonary hepatization, and by pleuritic effusion. Simple augmentation of the heart's action will also, in a healthy state, increase the extent to which its beat can be heard.

ART. IV. — EXTRAORDINARY CASE OF MONSTROSITY.

Messrs Editors.—The following case, in accordance with your request, I communicate for the Magazine. It contains some instructive experience in obstetrics, and is also interesting from its connection with the subject of Monstrosities.

The patient was Mrs T——, an American, in comfortable circumstances, of good habits, aged 33, the mother of four children, and had been married thirteen years. She was committed to my care in March 1831, by my instructor, Dr Shattuck, with the information, that her term of pregnancy had nearly expired. For a week preceding labor, she required daily attendance; being troubled with pain in the right hypochondrium, inability to sleep, loss of appetite, and vomiting of all ingesta. These unpleasant complications were relieved by venisection and other means. Her abdomen was extremely large. I was called to her in labor, March 31, at 3 o'clock, A. M. Found the os uteri dilated to the size of a cent, and was quite sure that the breach presented. She continued to have ineffective pains during the day, and at night, labor had not advanced. Thought that bleeding might forward dilatation, but considered it as inapplicable on account of the exhaustion of the patient. Concluded to procure rest by an opiate. Pain was suspended by three grains of opium, and she slept soundly from 10 P. M. till the following morning. At sunrise the os uteri was dilated to the extent of three inches in diameter: pains regular and quite strong; was confirmed in the opinion of preceding morning that the breach presented. Labor continued to advance, the breach towards the pubes, till 11 A. M. very gradually, when the efforts of the uterus, although very powerful, seemed quite ineffectual. The membranes were then ruptured, and the feet brought down; but the child was not forwarded. The extremities were then seized, and by a gradually applied force, the child was delivered alive at 12¾ o'clock. The abdomen of the patient being still, to the touch, as large as before; on another examination, another bag of water, and the foot of another fœtus were detected. Pains did not recur till 2 o'clock, when what I supposed to be a breach presentation was perceived, although the sulcus between the nates, the anus, and the genital organs could not be felt. The left foot was in opposition to this presentation, which after sufficient delay, I determined to bring down as in the first case, for the uterus, though active, still not in the least degree forwarded the expulsion of its contents; but first an attempt was made to find its fellow, which was unsuccessful. When the left foot was brought down, and passed through the external organs, even then the right leg could not be found. The natural efforts of the uterus were now relied upon, to forward the labor; but no advancement occurring, assistance was given to each pain by a gradual but powerful effort. The mother was delivered of a lusus naturæ at 3 o'clock, which will be described below. The abdomen of the mother being still distended, she was again examined, and another bag of water in advance of the vertex of another child detected. The membranes were soon spontaneously ruptured, and another living child was expelled by the uterus alone, at 3½ o'clock, P. M. At 4 o'clock, finding the uterus contracted, I removed the placenta, which was single, but had three chords.

The first born (a boy) weighed		7	pounds.
second (a lusus naturæ)	"	5	"
third (a girl)	"	6	"
placenta	"	2	"
	Total	20	pounds.

Interval between the first and second birth	2¼ hours
" " second and third "	½ hour
" " third and placenta	½ "

Delirium and faintness occurred before the birth of the second born. The faintness was occasional, but the delirium continued until the removal of the placenta.

The first-born is at the date of this paper, a healthy child. The second only gasped a few times after delivery. The third lived ten hours. The mother did well.

Description of the Monstrosity. *Head* — rests upon the shoulders: ears permanently directed forward; the left being larger than the right. The calvarium with its integuments is wanting, and the deficiency of the bony parietes with their natural coverings extends down the spine to the lower angles of the scapulæ: the dura mater appears in the place of the integuments: brain is nearly wanting and very imperfectly developed: arteries at the base of the skull are of good size: some nerves are visible, the optic particularly: base of the skull thickened. *Trunk.* The abdomen is immensely distended by congenital ascites: its largest circumference is thirteen and a half inches. The circumference of the chest directly under the arms is eight inches: therefore the general outline of the trunk is pyriform, the apex being towards the arms. The length of the head and trunk is eight inches: length of the trunk alone, six inches: sulcus between the nates, absent: scrotum and anus wanting; penis slightly and imperfectly developed, being about one-third of an inch in length, and having in place of the urethra a very shallow cul-de-sac; no appearance of a prepuce. *Extremeties.* The right arm is of natural aspect; the left is shorter than the right, and generally smaller; the hands are perfect. The left leg is five and a half inches in length and natural in appearance; the right is shorter than the left by one inch, and generally smaller. It is flattened, and appears as if it had been submitted to pressure in one direction; its natural position is, an apposition of its internal flattened surface with the abdomen and chest, in an oblique direction upward, so that the foot is in contact with the right shoulder. The feet are well formed, with the exception of the flattened condition of the right foot.

This monstrosity I recently deposited in the Museum of the Boston Society for medical improvement. To the request of the Secretary, Dr J. B. S. Jackson, that he might inspect it, I readily consented. He has favored me with the result of his examination, which I here subjoin.

In the *thorax*, nothing remarkable. On opening the *cavity* of the *abdomen* a few ounces of reddish brown fluid escaped; the peritoneum felt thickened, and had the color of tanned leather; the stomach, small intestines, liver and spleen, presented their usual appearance; the bladder formed one of the most prominent objects which presented on opening the abdomen, filling about one-third of the cavity, and being about as large as a common sized orange—it is of the usual thickness of this viscus, smooth on its inner surface, but not perfectly regular in its outline—numerous sacculi are seen, somewhat like those on the inside of the auricles of the heart — the urethra is seen in the usual place, and a probe can be passed in about two-thirds of an inch, but no farther; the kidneys are small as are the renal capsules; the ureters are from one-fourth to half an inch in diameter, very tortuous, and perfectly resembling an intestine — their parietes are very thin — at their termination in the bladder, they would more than admit the barrel of a goose-quill; the large intestine is well formed till it reaches the left side; there for its last two inches, it is greatly distended, apparently with meconium — it then terminates in the bladder at the upper and posterior part of its left side. In the parietes of the bladder are three cavities, apparently the rudiments of a uterus, one, the largest, being on the right of the large intestine, the other two being much smaller, and situated on its left side — the largest is about two-thirds of an inch in diameter and a line in thickness — its internal surface is in folds and has all the appearance of a mucous membrane — it communicates with the bladder by a free opening immediately adjoining that of the large intestines — the other two cavities are, the one, one-third, the other one-fourth of an inch in diameter — they are equal in thickness, and have the same appearance internally as that first described — the smallest of these two appears to open into one of the others near the bladder, but the largest opens into the bladder by itself, though immediately adjoining the two openings already mentioned — from the largest of these three cavities goes off a fallopian tube two and a half or three inches long, at the uterine extremity, large enough for a probe to play about freely — the other extremity is fimbriated and just above it is an ovary about one-third of an inch in length and one line in width — from the largest of the two other cavities also goes off a fallopian tube, not so long as that on the right side, nor so large at its uterine extremity.

Ezra Palmer, Jr.

December 1, 1833.

ART. V. — INFLUENZA.

[Continued from page 96.]

THE influenza of the year 1831, though generally mild in its character, was almost universal; for it would seem to have prevailed in both hemispheres in the same year. Accounts have been received of its appearance in India as well as in the United States of America. In many places it has been the precursor of the epidemic cholera. About a month before the latter disease broke out in Warsaw, it prevailed in that city. It also swept over great part of England, Scotland, and Ireland, in the spring and autumn, and preceded the *milder* visitation of epidemic cholera which many parts of Great Britain experienced the same year. Late in the autumn it attacked Paris, the south of Spain, Gibraltar, and Italy, with more severity than it did the British islands. At Rome it was said to occasion great alarm. It has certainly skipped over many countries of Europe in its march from Poland to France through England, so far as we can judge, negatively from the want of official reports; but, with this exception, it has pursued a course not widely different from that of similar former epidemics, and has proved to be a true herald of the epidemic cholera in many places.

2. The influenza does not seem to have exhibited a greater variety of symptoms, in its different visitations, than other epidemics. It has varied a little in town and country, in spring and autumn, at the beginning and end of the epidemic, in different persons, and according to the particular *genius* or tendency of the epidemic constitution; but still it has maintained some prominent characteristics of its identity at different periods. The ordinary course of the disease has been marked by the following symptoms: — it usually commenced with slight chills, amounting sometimes to shiverings, and alternate flushings of heat, with languor and sense of extreme weariness: then, soreness over the eyes, or pain in the course of the frontal sinuses: these were quickly followed by frequent sneezing, a copious discharge of lymph or thin clear fluid from the nose and eyes, sometimes so acrid as to excoriate the upper lip; heat and soreness in the top of the larynx and œsophagus, and along the course of the windpipe, with hoarseness and dry cough; sense of stricture in the chest and difficulty of breathing, sometimes

attended with darting pain in the muscles subservient to respiration; weight and anxiety about the præcordia; flying pains in the back, knees, calves of the legs, and various parts of the body; depression of spirits, and sudden and extraordinary prostration of strength. The tongue was mostly covered, at an early period of the complaint, with extremely white mucus, like cream — a symptom particularly noticed by Huxham, Baker, Pettit, and others: there was loss of appetite, the thirst was inconsiderable, and the pulse generally quick, weak, and soft.

The preceding symptoms appeared in various degrees and combinations, as the violence of the disease fell more particularly upon the mucous membrane, in the head, in the throat and chest, or in the stomach and bowels. When the disease chiefly affected the head, vertigo, violent headache, greatly increased by the cough, and delirium, were not unfrequent: there was hemorrhage from the nose, and pain in the ears; from which, in one case, a clear fluid was poured out like that from the nostrils. In some rare cases the tonsils and back part of the throat were inflamed, so that suppuration was the consequence. When the violence of the disease fell upon the lungs, as in old people, asthmatic patients, and those predisposed to phthisis, hemoptoe was not uncommon, and frequent troublesome cough which prevented sleep. It often degenerated into pleurisy and peripneumony. In common cases the cough became loose in three or four days. The stomach was affected with nausea in many, and vomiting in some; and a spontaneous diarrhœa relieved both head and lungs, and speedily cut short the complaint. But in many instances, and in several visitations of the epidemic catarrh, a morbid determination to the intestinal canal was manifest from the beginning; which, so far from being considered a salutary effort of nature to relieve the system in that way, required especial care in the treatment, and the utmost caution in the use of purgatives. The fever was generally mild in the day-time, and it increased in the evening; and it seldom abated till some critical amendment took place by perspiration or otherwise. There was little remarkable in the urinary secretion. The duration of the complaint was from a day or two to a week or fortnight. In some, the symptoms, after abating in two or three days, returned and raged with violence. The far greater part had critical sweats about the third day, which, attended with free expectoration, banished the fever on the fifth day. One of the most remarkable features of influenza is the debility; so that many could not rise from the horizontal posture without sudden faintings, even in the stage of convalescence; and the debility often remained for a considerable time. The suddenness of the invasion, the pain and tightness in the forehead, with pain in the back, knees, and muscles, and singular prostration of strength, were thought to be distinguishing marks between the influenza and common catarrh. Indeed, the pain or soreness in the face, temples, and cheek-bones, was considered the most certain pathognomonic symptom in 1782; 'and now and then was felt previously to the catarrh, and not unfrequently was followed by very little or no catarrhal affection.'

In one district in Gloucestershire, a practitioner states that 'in no two persons in 1803 did he observe precisely the same symptoms.' If this was the case, the symptoms might be expected to vary considerably in different places, as well as in different visitations of the distemper. And this has happened accordingly. The rarer occurrences were, an unusual disposition to sleep, stranguary and bloody urine independent of blisters, *peculiar slow and strong pulse*, with excessive debility, as at Newark; ringing in the ears and abscess, and abscess in the frontal sinus; of which last Dr Rush had three cases in 1790.

The duration of influenza in any one place seldom has exceeded six weeks. Upon the whole few have died of this complaint, although it has often attacked more than one-half or even three-fourths of a whole community. The chief victims have been the aged and asthmatic, those of tender lungs and of full oppressed habits. Those of middle age were more liable to be affected than old persons and children; and persons exposed to the air than those who were confined. Many recovered their strength very slowly, and some, especially in 1762, fell into incurable consumption.

3. One general observation seems to apply to almost every epidemic disease, including even those of a pestilential nature, viz. that during its prevalence numbers are attacked in so slight a manner as to require but little medical care. Hence the influenza, which in all its visitations has had a favorable character in the majority of cases, has been easily removed by mild diluents, rest, and abstinence for a few days from animal food and fermented liquors. Besides this, a complaint so various not only in its symptoms but in the degrees of their intensity, modified too at different periods by season, climate, and epi-

demic constitution, would of necessity call for the exercise of much discretion in the employment of remedies. But making due allowance for all this variety of character in the complaint, and for the judicious adaptation of a corresponding treatment, physicians of eminence in different countries, seem to have agreed remarkably in their testimony as to the general rules and principles of their practice; and from the very beginning of the sixteenth century, in their reports, with respect to bloodletting, to the caution about active purgatives, to the employment of a cold regimen, and to the restricted use of opiates, there is a very striking and satisfactory coincidence.

In the mild attacks of the disorder, few if any medicines have been required. In severe cases, emetics at the beginning relieved the sufferings of the head and chest, and, combined with gentle aperients and antimonial or saline medicines, were found useful in mitigating the fever and promoting a salutary diaphoresis.

No observation is to be found more general in practical writers in this disease, than that bloodletting could rarely be employed with safety, far less with benefit, on account of the alarming debility and weakness of the pulse; and when it was strongly indicated, practitioners were sparing in the quantity of blood, and cautious in repeating the remedy. In the epidemic of 1510 Dr Short tells us that 'bleeding and purging did harm.' In 1557, bleeding was said to be so fatal, that in a small town near Madrid, two thousand persons died after it in September. In 1580, Senertus ascribes the death of two thousand persons in Rome to venesection, and states that, where it was omitted, the mortality was not greater than one in a thousand. 'Experientia enim hoc comprobavit, omnes fere mortuos esse, quibus vena aperiebatur.' Forestus, in his Scholia on the same epidemic, suggests a good practical hint, that we ought to distinguish very carefully those cases which might require, from those which might not bear this remedy. Huxham, who had no prejudice against bloodletting, remarks, 'Imo, si vel peripneumoniæ aliquid subesset, minime largam, sine maxima virium ruina, plus vice simplici venæsectionem tolerabat: *nec in hac solum, sed in omni febre catarrhali epidemica hoc fere perpetuum notavi.*' In Edinburgh it was noticed that those who were bled, in 1733, and 1782, 'recovered more slowly;' though others at the commencement seemed to be relieved by the lancet. In the influenzas of 1733, 1775, and 1803, in France, bloodletting was generally injurious. Dr Glass reports that at Exeter, in 1775, venesection 'weakened the patient without relieving the pain;' and Dr Ash considered that 'it was never necessary to bleed at Birmingham; that in a neighboring town, three died who were bled, and all recovered who were not bled.' Dr Gray gives it as a general inference from the accounts transmitted to a 'Society of Physicians' in 1782, 'that bloodletting was by no means conducive to the general cure of the disease.' Many physicians bear testimony to the same good rule of practice in the influenza of 1803, as Dr Bardsley of Manchester, Dr Kinglake of Taunton, Dr Rutter of Liverpool, and others. Notwithstanding the foregoing authorities, it is admitted by some eminent physicians, that cases now and then occurred in which this remedy was useful. Sir George Baker made this observation in 1762, in London (p. 29); and in the same city it is somewhat remarkable that in the epidemic of 1775 it was less hurtful than in other places, which was perhaps owing to the more frequent complication of the disease that year with pleurisy and peripneumony, at all times no unusual circumstance.

Opiates at the commencement of the disease, almost invariably increased the febrile heat, aggravated the headach, in some cases even to delirium, tightened the chest, and stopped the expectoration; but in the decline they proved salutary. A cool temperature, both in drinks, in the air of rooms, and in the quantity of bed-clothes, was found to be useful; while, on the contrary, warm rooms, hot drinks, and cordial sudorifics, aggravated the violence of the disorder. Blisters to the chest, sides, or back, often greatly relieved the stitches and cough; and ipecacuanha was much extolled, especially in France, for its efficacy, when given in small doses, in assisting expectoration, relieving the oppressed lungs, and correcting the tendency to irritation of the mucous membrane of the bowels. A medicine often used with good effect to ease the cough when attended with viscid phlegm, was the solution of gum ammoniac combined with oxymel of squills. When recovery was tedious and the strength much impaired, even long before the cough was removed, some bitter infusion, such as that of calumba, cascarilla, or Peruvian bark, with wine-whey and some nutritious diet, was of great service. The reason why purgatives have been so generally reprobated by practitioners in the influenza, appears to have depended on the fact, that a morbid state of the mucous tissue of the internal surfaces exposed to the air, was often closely connected with a morbid tendency in that of the alimentary canal; and, therefore, drastic purgatives, though they might relieve one system or set of organs, yet too often only transferred the disease, as it were, to another, and produced a dangerous debility.

IV. Amongst the phenomena relating to the weather, which seem to have had a connection with epidemic catarrh, either as precursor or attendant signs, we may notice extraordinary vicissitudes, easterly winds, thick or offensive fogs, and diseases, often of a similar kind, among horses, dogs, and cattle. Epidemic catarrh is a disease either of spring or autumn. The spring influenzas have sometimes occurred when the first heat suddenly followed the winter's cold; and the autumnal, when the cold moisture and raw fogs of November have succeeded to the heat of a dry harvest; yet there has not been a uniform connection between any one sensible quality of the atmosphere as to heat or cold, rain or drought, wind or calm, and the prevalence of this epidemic; for in different places it has maintained itself under the dominion of each of these states of the weather, 'et tempori frigidiori et calidiori, et flante tam austro quam Borea, et pluvioso et sereno cœlo, peragravit hasce omnes Europæ regiones, et omnia loca indiscriminatim.' In fact, extraordinary vicissitudes have been more remarkable than any thing else; in some places, one peculiar sign of atmospheric intemperature has been observed, and in other places a different sign; and the epidemic has frequently fallen capriciously or partially, like the blight over a country, or even over a garden.

Short says that 'thick, ill-smelling fogs preceded, some days, the epidemic catarrh of 1557. July, August, and September had been very hot und dry; and in the end of September came a very strong cold north wind.'

[To be continued.]

COLLECTANEA.

DECOMPOSITION OF VEGETABLE MEDICINE AFTER ENTERING THE SYSTEM.

'WITH respect to vegetable medicines, this decomposition is effected in the same manner as that of alimentary substances. Many experiments have ascertained the fact, that all simple aliments, such as *albumen, gelatin, fibrine, caseous* matter, *vegetable mucus, sugar, starch,* and *gluten,* are soluble in the gastric juice; and that all compound aliments, containing these substances as constituents, are also dissolved by it, under certain conditions, connected with the structure of the compound substances. A substance, for instance, the components of which are, when separate, readily soluble in hot water, is very quickly dissolved in the gastric juice. It is less quickly dissolved if the components, separately, require the assistance of acids for their solution; as those, for instance, which contain much *gluten, concrete albumen, fibrine,* and *caseous matter:* and the gastric juice scarcely acts at all upon the *husks of grains,* the very *hard fibres of woody plants, hairs, feathers,* and substances of a very compact texture. Now, as all vegetable substances are components of some of these simple aliments, and are more or less susceptible of solution in the stomach, it is evident that all vegetable medicines must also undergo digestion to a certain extent; although it is probable that some of them previously act upon the nerves of the stomach. The decomposition, however, is generally first effected, and the active principle being thus extricated, acts either *directly* upon the nerves of the stomach, or escapes into the circulation, whilst the other constituents are completely digested. It is to this circumstance that we may ascribe the time which elapses, after swallowing some medicines, and the period when their operation becomes apparent. Thus, if half a drachm of the powder of the root of Ipecacuanha be swallowed, from fifteen to thirty minutes generally elapse before vomiting is produced, a circumstance which we may fairly attribute to the envelopment of the *Emetina,* the active constituent of the Ipecacuanha, in the *Wax, Gum, Starch,* and *ligneous* matter of the root: it cannot exert its influence until extricated from these by the process of digestion. In this manner, also, *Veratria,* the active ingredient of Colchicum; *Strychnia,* that of Nux-vomica; and the medicinal principles of many other substances; are separated and pass into the circulation. The decomposition of medicines in the stomach by the digestive function, is not, however, confined to vegetable matters; the Acetas Potassæ, and some other salts in which vegetable acids enter as components, are liable to undergo the same process; the acid is digested, whilst the alkali passes into the circulation, and is excreted by the kidneys. Such is the result of the digestive process on many medicines: those parts which are readily soluble in gastric juice are digested; whilst the active principle if set free, remains unaltered, and exerts its influence on the system. In all these, and similar instances, the decomposition is effected by the vital powers of the stomach; and the active principle of the medicine which is eliminated either acts *directly* upon the stomach, extending its influence to distant parts of the system, or it is absorbed and carried, in the course of the circulation, to those organs on which its appropriate action becomes apparent, whether *diuretic*, *sudorific*, *expectorant*, or otherwise.' — *Dr. Thompson.*

VENEREAL DISEASES.

M. Ricord has published, in the memoirs of the French Royal Academy of Medicine, an elaborate paper, promulgating his observations on the cases presented in the Hôpital de Vénériens, of which he is principal Surgeon. The following remarks and extracts are from a notice of it in the Medico. Chir. Review.

It would be impertinent in us to tell our readers that the venereal disease is surrounded with difficulties; they well know that. But it might appear more startling to some were we to assert that the late investigations on the non-administration of mercury have been productive of much general delusion. Yet, startling as it may appear, such we believe to be the fact. Yes, we believe it to be the fact, that much delusion exists with respect to the practice of treating the venereal without the aid of mercury, and much as the experiments of the army surgeons have been lauded, and great as has been the benefit accruing from those experiments, we think they have been too implicitly trusted to, or too narrowly reasoned on. This may sound to many like a heresy: we will not at present attempt to defend ourselves, but we mention our opinion, not lightly taken up, as an evidence that investigation is not exhausted, and that much is necessary to produce general conviction on any essential point. Hereafter we may enter more in detail, and develope more particularly such ideas as we may be led to entertain upon the subject. We must confess that we think there is an opening for a really good and practical work on this disease. But to proceed to notice the facts and opinions of M. Ricord.

Of one hundred female patients in the venereal hospital, sixty, according to M. Ricord's computation, are affected with discharges acute or chronic, the blennorrhœa being always more common than the blennorrhagias. It is well know that women of the town are nearly always anxious to leave the hospitals as soon as possible, in order to return to their profession. As soon as the more prominent symptoms have disappeared, and when they are apparently approaching to a cure, they frequently elope. This is sufficiently common at the Lock Hospital in London. In Paris where, in order to follow their trade, they are under the necessity of possessing a certificate of health, it becomes an important matter to deceive their surgeons into granting it at as early a period as possible. The charge of public health, on the other hand, being thus confided so especially to the surgeons, it becomes their duty to avoid intentional imposition and unintentional error. Now it must strike very many, as it certainly has struck us, that whilst venereal sores are extremely frequent in men, they are comparatively rare in women. Of the tenants of the Lock Hospital the majority of males have or have had sores, whilst the great majority of females have discharges. And yet those females being of the lowest class of prostitutes would probably be, and no doubt are the chief means of propagating sores. How are we to account for this anomaly? Are we to suppose that women having no sores will occasion them in men — that there exists therefore a considerable difference between the characters of the disease in the two sexes — or that sores do exist, but escape our notice. We shall presently shew that M. Ricord has in part explained this mystery, by shewing that ulcerations are not unfrequent in the deeper parts of the vagina, those parts where surgeons never search for them. But we doubt whether this is the whole of the truth, and we think, for reasons which we need not at present bring forward, that women *are* less subject to primary sores than men, and that males will contract sores followed, or liable to be followed, by secondary symptoms, from women that have merely discharges. To return to M. Ricord.

This gentleman being convinced of the inefficiency of the usual method of examination, determined never to discharge a patient without inspecting the interior of the vagina and neck of the uterus by means of the speculum. The employment of this instrument has subsequently been enforced in every instance, and, since it has been so, M. Ricord has been amply satisfied how inexact the common mode of exploration is. He entertains no doubt that the usual inspections of the public women of Paris are perfectly illusory, and offer no security. The fact has been already noticed by our own army surgeons. One gentleman, we at this moment forget who. but we think it is Dr Hennen, remarks that he was frequently astonished at the results of the examinations of the women at Valenciennes. They were found to have merely discharges, yet sores of all descriptions were frequent among the soldiers who cohabited with them.

The following is the resumé of the facts observed by M. Ricord.

1. That the vulva is more frequently affected in blennorrhagia than in blennorrhœa.

2. That in chronic discharges, on the contrary, the deep parts of the vagina, the neck of the uterus, and its cavity, are more frequently affected.

3. That the different ulcerations are most frequent in the parts of the vulva, situated anterior to the carunculæ myrtiformes, then on the neck of the uterus, and lastly in the deep parts of the vagina.

4. That vegetations are met with in the following order of frequency — vulva — vagina — uterus.

5. That the different lesions in the acute stage may exist consentaneously on different points.

6. That acute affections may be associated with chronic affections that pre-existed, and that they may be speedily cured, without the others being influenced.

7. That on the contrary the chronic affection commonly becomes more severe in consequence.

8. That the various lesions tend to produce similar ones by contagion, and that we must not admit that a severe gonorrhœa in a female can produce chancres in the male.

9. Finally, that a woman affected with gonorrhœa and chancres, and having connexion with several men, may communicate chancre, and gonorrhœa only, or both at once.

We must say that we consider the foregoing facts extremely important, as important perhaps as any that have been elicited in modern times, with reference to the venereal disease. They add to our amount of exact knowledge, and every addition of this kind is a great gain. We hope we shall never again see such a work as Hunter's, a work unphilosophical in its conception and absurd in its conclusion, a work that never did good and never can do any. Based on an assumption purely gratuitous, it has led to ideas unnaturally restricted, and to practice mischievously empiric. Setting out with the notion that syphilis has one peculiar form, and that the sore which he denominated chancre is that form, he has forced his disciples to come to the conclusion that syphilis has nearly deserted the earth, and that chancre has passed away with the Hunter's.* Certain it is that such a sore is now comparatively rare, and that five or six cases of other sores are witnessed for one of it. But to return to our subject.

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* We beg leave to enter a protest against this style of remark on any work of John Hunter's. '*Malo cum Platone,*' *&c.* —*E.*

We have said that the investigations of M. Ricord have added to our amount of exact knowledge, and we need hardly say that without exact knowledge, there is no true philosophy. They have contributed exactness to a subject in which it was particularly wanted, that of the female discharges. How often must surgeons have seen such a case as this. A gentleman presents himself with a primary sore, and it is necessary, or at all events judicious, to give him mercury. The female with whom alone he has been connected is examined, and merely a little discharge is discovered. The point seems difficult, but like all familiar difficulties, the surgeon gets over it without his suspicions being much excited or his faith in common opinions much shaken. He looks upon it as one of the difficulties of the venereal, and puts up with it.

All must be struck with the fact, that in men sores predominate, in women discharges. Nay, more than this. A woman has distinct secondary symptoms independent of the exhibition of a grain of mercury. Yet merely a history of primary discharge is obtained. Here it is commonly supposed that the woman errs from inaccurate observation, or that she intentionally deceives. But women will be admitted into a Lock Hospital with discharge, there will be nothing else discoverable, and secondary symptoms, eruptions, will occur under the surgeon's observation. Such facts are always blinked, for no man, and particularly no prejudiced man, will think much about what he does not wish to doubt.

The investigations of M. Ricord prove that we have laid up a false experience, that we know little, because our knowledge has been inexact. We must begin again. There is no disputing it. Every surgeon must use the speculum, at least we must use it where we can, and at no hospital should it be neglected. It is proved that ulcerations of the deep parts of the vagina and of the cervix and os uteri do frequently exist, when nothing but discharge is visible externally. That fact being known, what candid man would in future trust to others or himself, if means of arriving at the whole truth had not been resorted to in the investigation of the organs of the female? It is idle to say, that the use of the speculum is not new. Its general use, that is, its use in *all* cases is new, and that is the important point. In fact, the whole matter lies in a nut-shell, and none can mistake it. We have hitherto been treating as discharges only, what may have been deep ulcerations, or other lesions, accompanied with discharges. The doubt is sufficient to vitiate all conclusions drawn or to be drawn from such a source.

M. Ricord does not appear to us to have communicated the result of his examinations in a clear or satisfactory manner. He has given us no data of comparison, no means of ascertaining the frequency of such or such vaginal or uterine lesion in a given number of cases. The manner in which his propositions are stated is more brief than lucid. However, these are minor considerations, and we cannot but thank M. Ricord, as no doubt the profession will do, for putting the important facts, to which we have adverted, in a prominent point of view. We suppose that their having occurred at a public hospital, together with the circumstance of their being brought forward in the Memoirs of the Academy of Medicine, will be a sufficient guarantee for their general accuracy.

We have now to notice the observations of M. Ricord on the treatment of the disease. On this we shall be more brief.

In the acute stage M. Ricord recommends antiphlogistic treatment, and he seems to approve of general bleeding, practised and recommended by Lisfranc. If leeches are employed it should be above Poupart's ligament, or, if the anus is affected, over the scrotum, as otherwise the discharge reaching the leech-bites, occasions very troublesome sores. M. Ricord prefers general to hip-baths. He thinks injections often injurious from the irritation occasioned by the introduction of the pipe of the syringe, and applies charpie dipped in an emollient decoction and often renewed. As soon as the acute symptoms have subsided the speculum should be introduced in order to ascertain the exact condition of the parts.

He has almost entirely abandoned injections. Patients too commonly use them carelessly, and even when used carefully, they are too frequently unsuccessful. In a great number of cases the injection never reaches the os uteri. M. Parent du Chatelet ascertained this fact, by placing on the os tincæ a plug of lint, and ordering an injection of colored fluid to be used ; the lint was not stained by the injection. Injections may be made to reach the deepest parts of the vagina, by a proper inclination of the pelvis, but they remain but a very short time in contact with the deeper parts. In short, M. Ricord prefers the introduction of dossils of lint soaked with the fluid to be employed, retaining them from twelve to twenty-four hours according to the circumstances of the case. If the discharge is slight a dossil of charpie dipped in a concentrated solution of the acetate of lead is introduced deeply into the vagina by means of the speculum, and replaced every twentyfour hours. If the discharge is profuse, the lint is renewed twice daily. Many patients were rapidly cured in this manner, who had been employing astringent injections of all kinds ineffectually.

If the mucous membrane is covered with prominences like pale granulations, or softened, the introduction of a dossil of charpie soaked in a solution of one part of acid of nitrate of mercury in twelve of water, and left according to the state of the parts and irritability of the patient, ten minutes, a quarter of an hour, half an hour, or more, and then followed by a similar application of pure water, has succeeded in many instances.

Ulcerations of the vagina or uterus are often healed by the mere application of cold water. If they are accompanied with swelling of the parts where they are situated, small abstractions of blood are useful; if languid, M. Ricord cauterizes them with the acid nitrate of mercury applied by dressing foreceps, and immediately introduces a dossil of lint soaked in a solution of acetate of lead, and renewed every twentyfour hours or oftener.

Ulcerations of the cervix uteri being frequently accompanied with uterine discharge, the mucus covers the ulcers. The mucus should be cleared away with lint, or removed by coagulating it with the nitrate of mercury prior to the cauterization of the ulcers themselves. M. Ricord has cauterized ulcerations of the cervix in upwards of sixty patients without experiencing the slightest accident. The cauterizations have been repeated every six or eight days, avoiding the catamenial period, and it has never been repeated more than ten times. Females have been thus cured who seemed incurable.

Transparent uterine discharges have often disappeared or have been much diminished, when the ulcerations on the cervix have been healed. Some opaque uterine discharges have subsided in the same manner. In five cases purulent discharges existed alone, and appearing to be kept up by atonic ulcerations within the cavity of the cervix, injections of the nitrate of mercury were thrown into the cavity. Three of these discharges were radically cured; the remaining two became transparent and less abundant. M. Ricord employs for injecting the uterus a double syringe, with a double pipe. One part of the syringe contains a solution of the nitrate of mercury, the other water. An elastic tube, open at its two ends, is adapted to the double pipe. One end of the catheter is introduced into the cavity of the cervix, into which a small coffee-cup full of the solution of the nitrate is injected, and after being allowed to remain for an instant, is driven out by the water. All the patients who have submitted to these injections have experienced immediately afterwards pains in the loins, and a sensation of heat in the hypogastrium; these symptoms disappear after the hip-bath. Two patients had five injections thrown up, the others three or four. They were employed at intervals of eight days. The solution of the acetate of lead succeeded in several cases of transparent uterine catarrh.

We conclude by again directing our readers' attention to this Memoir. We do not care for the treatment nor even for the particular facts, so much as for the principle involved — that we cannot pronounce on the source of a vaginal discharge with any certainty, unless we are fully acquainted with the state of the deeper parts. — *Med. Chir. Rev.*

THE GUNNER WITH THE SILVER MASK.

The following is an extraordinary case of extensive destruction of the lower jaw by a shell; with an account of the recovery of the patient, and a description of an ingenious contrivance for remedying the loss of parts.

In presenting the following description, and in calling to it the attention of our readers, it is our duty to express our most cordial thanks to the French and Belgian medical officers in charge of the Antwerp hospitals, and above all to Dr Forjet, Surgeon-major to the Army of the North. This eminent practitioner kindly furnished us with copies of notes extracted from his official report to Baron Larrey, and we have done little more than arrange and alter them in an English garb.

The advantages enjoyed by the French medical department, at the siege of Antwerp, were never before surpassed during any similar operation. The instant a man was wounded in the batteries or trenches, he was conveyed to the field hospital at Hoboken, where the first operations and dressings were instantly performed. The slighter cases were then removed to the general hospitals at Louvain and Malines; those of a graver nature to that of Boom or Antwerp, where every possible convenience, comfort, and even luxury, were abundantly supplied, and where the sufferers received every physical and moral succour that art or humanity could devise; and there were many of the wounded who showed a degree of gaiety and indifference, though suffering the most acute pains, that must have been the fruit of extraordinary stoicism, or of rare exaltation of mind. The subject of the following details was among the latter number.

Alphonse Louis, aged 22 years, a native of St Laurent, in the Pas de Calais, private in the 5th company, 2d regiment of artillery, of a sanguine temperament, was wounded in the trenches on the 6th December, 1832, by the splinter of a shell. When this misfortune occurred, Louis stood fronting the left wheel of his gun. He held a lever or handspike across his body, in the proper position of a gunner waiting to serve his piece; that is, with the right hand raised and the left depressed, or the very reverse of the position of an infantry officer when holding his sword diagonally, at open order, preparatory to a salute. At this moment a 12 inch shell burst a few feet above the battery, and a fragment of about seven pounds weight struck Louis.

The projectile first attacked the external part of the left jaw, carrying away almost the totality of the maxillary process, of which there only remained the edge of the extreme left posterior portion, the coronoid process, and condyle. On the right side, the extremity of this bone was preserved as far forward as the first large molar tooth, inclusive. Besides this, the alveolar processes and teeth of the upper left jaw were partly fractured, the body of the hyoides laid bare, the left parotid duct lacerated, and the tongue furrowed on the same side with a deep wound.

The loss of substance, or solution of continuity, occasioned by this wound, was immense; it extended on the left side from the zygomatic process to the antero-superior articulation of the thyroid cartilage, tearing away almost all the fleshy parts of the cheek, and a large portion of the upper lip; on the right side it ran from the same cartilage to a level with the upper maxillary sockets and the buccinator, to within half an inch of the lobe of the ear. The centre of the wound was occupied by lacerations of the roof and coating of the palate, by the œsophageal opening of the throat, by some remnants of the upper maxillary glands, and the hyo-gloss and genio-gloss muscles; and lastly, by the tongue swollen to four times the size of its ordinary volume. This organ having been entirely denuded on its lower superficies, as far as its base, and having lost its natural support, hung down in front of the larynx. In short, to render the description still more clear, nothing whatever remained of the lower jaws save the four fractured double teeth, and injured fragment on the right side, and thus the tongue drooped down to the length of several inches, exposing the cavity of the throat, a horrible and ghastly sight.

But the sufferings of the victim did not terminate here; the splinter, after committing this fearful havoc in the face, encountered on its descent the upraised right arm, and striking it about one third of the distance from the elbow to the wrist, caused a compound fracture of the severest kind.

Louis was immediately raised, and carried from the battery to Hoboken, where the surgeon-major on duty forthwith proceeded to sew up several portions of the integuments of the upper maxillary region, as well as those of the neck; that is, both above and below the solution of continuity, in order to diminish the aperture. But the nature of the laceration was such, as to offer little hope of saving the patient; indeed, such was the nature of the mutilation, that death appeared not only inevitable, but ardently to be desired. The amputation of the fore-arm was then performed by the ordinary process, at the distance of about two inches below the articulation of the elbow-joint. The usual dressings were applied in both instances. Symptoms of general reaction were not long in developing themselves, — at first not with a degree of severity proportionate to the gravity of the wounds. The most rigorous diet was enforced. The wounds of the face, fearfully swollen, were dressed every day without any remarkable accident; and on the 11th of Dec., or sixth day, the sewings and first dressing of the fore-arm were removed; and on the 12th the patient was carefully transported to the reserve field hospital at Boom. On the following days the same treatment and regimen were continued, and Dr Forjet was not without hopes of saving the man's life.

The suppuration now commenced in both wounds; it was of a satisfactory nature, as regarded the stump of the arm, but of a less favorable character in the face, of which several mortified portions gradually sloughed away. Between the 14th and 24th days the gashes in the face assumed a livid and gangrenous character; the suppuration was more unwholesome, and dressings more painful than ever. The stump having become the seat of considerable inflammation, the bandages were removed, and emollient cataplasms applied; notwithstanding this, however, the extremities of the bone pierced through the fleshy parts near the lips of the wound, and their death was the inevitable result.

On the 2d of January, or twentyeighth day, the patient was transported from Boom to the military hospital at Antwerp, and placed under the immediate care of Drs Forjet and Seutin.

From the 2d to 20th January the dressings could only be effected by the aid of the chloruret of sodium; these were renewed daily. But notwithstanding the most energetic treatment, and the most indefatigable attention, the aspect of the wounds was extremely unpromising, and nothing could arrest the gangrene. However, between the 15th and 20th the surfaces assumed a less unfavorable appearance, and the local and general symptoms were attended with a slight amelioration. This amelioration progressively advanced, in consequence of the unremitting care with which the patient was attended. The nourishment at first consisted of some slight doses of thin broth, afterwards veal soup and lemonade tinged with wine, and then with vegetable and animal jellies. In proportion as the muscles of the tongue regained some slight power, the deglutition of these substances became less laborious and painful. They were administered by means of a narrow curved spoon, moulded for the purpose, the extremity of which was placed on the base of the tongue, and the food, always administered in a liquid state, poured down the œsophagus.

From the 25th January to the 9th February the progress of general and local amendment became more sensible daily, the edges of the wound subsided to a level with the circumjacent surface, and the work of cicatrization manifested itself. The tongue was now reduced to within double its ordinary volume, and the exfoliation of bony substances continued insensible. The cicatrization of the stump was only impeded by the complication before-mentioned. The portion of dead bone came away on the 9th ; other fragments had been previously removed, and the whole appeared in a promising state.

A singular circumstance attended this part of the case, and merits peculiar attention. Although the gustatory surfaces were diminished by nearly three-fourths, and the tongue had lost its action — although alimentary substances only came in contact with a small part of the posterior portion of the tongue, and the mucous membrane of the bronchial passage (which generally are not admitted to possess the faculty of distinguishing or appreciating the savour of any given nutriment, but merely that of facilitating deglutition), it appeared that the sensation of taste, though at first much impaired, was now exercised with perfect discernment.

On the 10th February an exact plaster cast was taken of the face, thus horribly disfigured ; it being sufficiently cicatrized to permit this operation without causing great suffering to the patient. A cast-iron mask was then made ; and by the aid of this the artist was enabled, at his leisure, to construct a substitute for the lost parts, that might not only render essential service to the individual, but even deceive the eye as to the ravages of the wound. From the 10th to 25th the process of cicatrization made rapid progress. The palate, uvula, the whole of the injured superior surface and adjacent membranes, had returned nearly to their natural state, and the phenomena of deglutition gradually increased in the regularity of their functions ; however, the extent of the vault of the palate was still much diminished, and its surface covered with a thick white crust, demanding constant ablution. The left parotid was paralyzed, and the salivary process only went on by the right side. On the other hand, the stump was in a highly satisfactory state, and almost entirely cicatrized. The general condition of the patient was, in every other respect, that of the most promising convalescence.

The integrity of the vocal organs having remained unimpaired, it is unnecessary to observe that the voice continued unchanged ; this, however, was not the case with the powers of articulation, which could not of course act from the want of the front of the mouth. It is not, however, uninteresting to remark, that the phenomena of speech were not totally annihilated ; that the simple and compound vowels were uttered naturally, and that the greater part of the consonants were pretty distinctly enunciated ; the labials and hissing sounds were the most indistinct. Nevertheless, the mere habit of attending to the patient sufficed to render his language intelligible, and an improvement in his mode of pronunciation was gradually perceptible; so much so, indeed, that there was every ground for predicting that the modifications in his power of articulation would be susceptible of great improvement under the influence of time and education. This prediction has already been partially verified; for on our last visit to Alphonse Louis, we were able to comprehend every word he uttered; and the wounded men occupying adjacent beds in the hospital, said that they understood him as well as any other of their comrades. He appeared to speak without any great effort, or pain. The sounds were not loud, but sufficiently so to be heard at a reasonable distance; and gave one the idea of a person speaking with a wooden gag placed transversely between the open jaw, and pressed against the back of the mouth.

On the 25th Dr Forjet made some attempts to separate the morbid fragments of the right jaw, and succeeded in detaching the whole portion of the bone that incommoded the patient, and prevented the precise application of the artificial substitute. The rest of the operation was left to nature; and four days subsequently the splinter separated itself from the live parts. It consisted in front and below of the whole thickness of the maxillary body; and above, of the bone that separates the 5th and 6th dental socket. On the outside it was composed of the extreme portion of the body and branch of this bone, including its obliquity, terminating backwards in the coronoid process. The patient still preserved on this side the three large molars, of which the first, imbedded in a half socket, forms the antero-posterior base of the maxillary bone, and might resist for a length of time the ordinary causes of destruction.

It was at this time that the last finish was given to the artificial *silver* substitute, the execution of which had been intrusted to a skilful artist of Antwerp, M. Verschuylen, from the designs of Dr Forjet. The ability shewn by the artist in the construction of this ingenious piece of mechanism, is deserving of much commendation; and we venture to recommend such of our readers who may have an opportunity of visiting the Invalids at Paris, to inquire there for the '*Gunner with the Silver Mask*;' they will then be enabled to inspect the contrivance, and to see and converse with its proprietor. To practical men the visit will be of deep interest. A short description of the mask itself is necessary, though we cannot pretend to offer a graphic portrait.

The external part is composed of a lower half-mask, without nose or cheeks. The anterior edges are in immediate contact with the lower part of the nasal cartilage and adjacent muscles, and the angles of the upper jaw. The two sides, or half-cheeks, repose on the parotid borders of the maxillary and the sternomastoideum, so as to conceal and enclose the whole extent of the deformity. In the front of its centre, that is, the portion occupied by the lips and chin, there is an oblong square plate, or trap, opening with a lateral hinge and spring; this imitates the surface of the chin, two lips, and middle section of the mouth. This trap being opened by the patient's left hand, shews a second, or internal chin, and complete bocal cavity, with a regular set of metal teeth. By the aid of this aperture, of which the mechanism is extremely simple, a communication is opened between the air and the pharynx, so that he can repose and breathe freely without taking off his mask. This is not strictly necessary for the process of respiration, as there is an opening between the artificial lips; it is merely done to give greater freedom to the action of the lungs, and to diminish the heat.

All the points of contact with the face are skilfully ornamented with mustachios and whiskers, which entirely cover the edges. The inferior parts are covered by the cravat; and the posterior part, which reaches behind the ear, hidden by allowing the hair to grow and fall down over it. At the distance of two or three yards it is impossible to distinguish the artificial nature of the substitute; the subject having the appearance of a man of good constitution between 45 and 50 years of age. The mask is painted in oils, of a tint analogous to his complexion, so that the illusion is so strong that, unless forewarned, he might be steadfastly examined at a short distance without betraying his misfortune.

The internal part is divided into two compartments. The upper, or sublingual section, is furnished with a platform which supports the tongue, retains it in its proper position, and regularly circumscribes its action by a complete alveolar process, set with gold teeth. This jaw, being adapted with a hinge and spring, can be lowered at will by the man's left hand, so as to admit food. The lower section forms the cavity of the inward chin, and is disposed so as to serve as a reservoir for the saliva and mucous secretions, which are incessantly flowing from the remaining parotid and glandular integuments of the mucous membrane; these fluids are got rid of through a small orifice, by merely leaning the head to one side. The different portions of the mask are of silver, strongly gilt, and so constructed that they can be taken to pieces in order to undergo cleansing, and can be re-united with the utmost facility. The whole contrivance, an admirable proof of mechanical skill, is maintained in its proper place by means of Indian rubber bandages, which hook on the occiput and vertex, and are strengthened by means of a flexible metallic strap, intended to prevent all possibility of derangement. The weight is about three pounds, and the cost of the whole was about 12*l.* sterling.

The use of the mask is by no means painful or inconvenient, considering the nature of the wound. It is, above all, of great assistance in arresting in their passage, and retaining in the cavity of the artificial chin, the salivatory and mucous secretions; it facilitates the action of the tongue; it has restored a face dreadfully mutilated to a human form; it has singularly softened the rigor of the sufferer's fate, conduced to his comfort, and rendered his existence not only desirable, but comparatively happy. On our last visit to Alphonso Louis, the day previous to his departure for Lille, he appeared in high spirits; he walked about with agility; used the stump of the fore-arm with address; took off and re-adjusted his mask with his left hand; spoke not only intelligibly but easily; he was high-colored, and fatter, as he stated, than he had ever been prior to his misfortune. He played at cards, and seemed to be as proud of showing the mechanism of his artificial jaw, as he was of the crosses of the Legion of Honor and Leopold, that glittered on his bosom.

It would be in our power to detail several other most interesting operations performed by Dr Forjet during the siege, but we have already occupied too much of the reader's time with the description of the '*Gunner with the Silver Mask,*' whose history, though less romantic than that of the celebrated 'Iron Mask,' is infinitely more interesting to science and humanity. Of the one, all that can be said is, that he was the mysterious victim of that most unparalleled despotism that paved the way to the first French Revolution; in the other, we have a proof of the glorious triumph of art, and of the immense progress of medical skill. Wounds of a similar nature are not unfrequent; there is an instance, we believe, of something analogous in the case of Colonel Cunningham; but as far as we have been able to ascertain, no recovery from such complicated lacerations is on record in France, nor had the substitution of an entire artificial jaw ever been projected, or successfully executed, until the present instance. — *Lon. Med. Gaz.*

TETANIC AFFECTIONS.

In tetanus and in tetanic affections in general, as in delirium tremens, opium is the sheet-anchor of the practitioner. Tetanus arising from uterine irritation forms an exception to this rule. It is a less dangerous complaint when arising from this cause, and, unlike tetanus arising from wounds or otherwise, admits of the use of the warm-bath. I have met with cases illustrative of this position. In one instance, lock-jaw had existed for hours, and the jaw became relaxed while in the bath. This case occurred during pregnancy. I have lately also met with a case of convulsion which came on suddenly during an intermission of labor-pains. The patient was upwards of forty years old, and it was her first labor. A most ominous degree of strabismus occurred also suddenly, and she became quite insensible. I immediately took a pint of blood from a large orifice in each arm, which had every desired effect. The blood abstracted was tenacious and thickly buffed. Labor-pains soon returned, the child was born alive, and she had a very good getting up. There can be no doubt in this case but that mischief was going on in the brain, which, if unchecked, would have speedily terminated in death. Such cases are the more alarming, because they generally come on unforewarned, and are not unlikely to occur, as in this instance, during the temporary absence of the practitioner. I have recorded two or more similar cases similarly treated before. This last constitutes a fresh testimonial to the necessity of so treating them. Patients laboring under this symptom always bear well the free and ample abstraction of blood. — *Lancet.*

Difficult Labor.

To the Editor of the Lancet.

Sir, — Never having had recourse to the treatment adopted in the following case, and never having heard of its employment by others, I am induced to communicate it for publication in your Journal.

A lady of consumptive family and habits, who has had thirteen children in fifteen years, applied to me to attend her in the accouchment of her thirteenth child. During the last eight months she has had frequent severe attacks of indigestion, — loaded tongue, palpitation of the heart, swelling of the face, hands, and lower extremities, sometimes to an alarming extent. She has had bearing down, with some slight prolapsus uteri on going to stool, which alarmed her so much as to prevent her from resorting to the closet for a week at a time; however, by ordering her some gentle aperient medicine, combined with a tonic, and directing her to use a close stool, sufficiently high to keep her feet from touching the floor, and to sit upright during the expulsion of the feces, she was much relieved, and made tolerably comfortable.

Her labor was tedious, lasting fortyeight hours, but, upon the whole, a natural one, nothing remarkable transpiring. She stated that she had on this occasion done better than usual, and hoped that she should escape the inflammation of the womb which had dangerously affected her in her two last confinements. I remained with her three hours after the birth, and then left her in a very comfortable state, ordering her to take nothing but gruel. In an hour and a half afterwards I was sent for, the husband saying ‘my patient was dying,’ an assertion which, on entering the room, I expected would be realized. I found her very pale, and bedewed with a cold clammy perspiration, pulseless, and unable to articulate. I suspected flooding, but this did not prove to be the case. The womb was about the size of a cocoa-nut. The nurse informed me that, soon after taking some tea, she complained of a violent pain in the stomach and head. Coupling this with my recollection of her former dyspeptic symptoms, I gave her some brandy and soda water, which were fortunately at hand. This relieved her for a time; but in about two hours the symptoms began to return violently. I then determined to give her an *emetic.* My reasons were these: — She had always been violently affected with after-pains, and had been subject to hysteritis, produced perhaps by coagula in the uterus, a bad state of the digestive functions, and general debility. I thence argued that an emetic would not only cleanse the stomach, but the uterus also, and induce a healthy action in each. The result was most favorable. She vomited a considerable quantity of viscid bilious matter, and, during the vomiting, the uterus contracted violently, expelling large coagula, and a *netted* (with large meshes) membrane of a dark grumous appearance. Since this, the after-pains have been very slight, the headach and pain in the stomach vanished, and she now states (two days after labor) that she never was so well in a month as she is at present. She has slept well, her appetite is good, and altogether she is quite a different person compared with what she was at any of her previous confinements. The discharge is healthy, natural, and in good quantity. I remain, Sir, your obedient servant,

E. M.

ECCHYMOSIS OF THE CONJUNCTIVA.

Mr Lawrence, on going round the wards on Monday the 9th August, called the attention of his pupils to a case of ecchymosis of the conjunctiva, covering the sclerotic portion of the eyeball. He remarked ‘that it was an illustration of an affection of the eye, which, in appearance, almost resembled inflammatory chemosis. The principle diagnostic marks, however, were, the absence of the acute pain which attends the latter complaint, its speedy removal on the adoption of proper remedies, and the dark red or liver-colored aspect which the membrane generally assumes. This appearance resulted from a blow, or other injury, producing sanguineous effusion into the substance of the conjunctiva, which from its loose cellular structure readily admitted of such distention. He had seen some cases of spontaneous or idiopathic ecchymosis of that membrane, which had originated without any violence to the organ, and which he imagined resulted from the rupture of some small blood vessels in its substance.'

Case 1. — George Coventry, whose case had elicited these remarks, is in Rahere's ward. He was admitted August 10th, and states that on Saturday week he fell from a scaffold on his right side, and struck his face. There was some tumefaction of the head, and the right eye presented the appearances above mentioned. Twenty *leeches* were applied near it, with decided benefit; but some pain of the head and eye having come on, with feverish symptoms —

12. He was bled to faintness, and the following mixture was prescribed; one ounce of the *liquor of the acetate of ammonia*, one drachm of *epsom salts*, one drachm of *antimonial wine*, with *camphor julep*. His head was also shaved, and cold water was often applied. These remedies relieved the unpleasant symptoms, and the eye has become somewhat paler, although still very red. For the first few days there was but little sight in the injured organ, but since absorption of the effused blood has in a measure taken place, he has regained the power of distinguishing objects.

20. Complains to-day of some pain in his head, and rather more uneasiness in the eye.

Case. 2. — Another man, Wm. Coombe, aged 37, a coachman, now lying in the same ward, fell from his box on August 14th, and was brought to the hospital with a lacerated wound of the left upper eyelid. This case also showed the ecchymosed state of the conjunctiva, which seemed elevated and distended with blood, giving it the liver-colored appearance of which we have spoken. Very little uneasiness is experienced, and the sight does not appear to be affected. He was ordered twenty *leeches*, to be applied to the injured organ, and twelve grains of the *compound extract of bitter apple*, to clear the primæ viæ.

CHILBLAINS.

The treatment of the *pernio*, or chilblain, is often confided to empirics. Medical men prescribe, according to the cases, soothing, resolvent, and slightly tonic medicines; the vinous or alcoholic tinctures of sage, tansy, eupatory, and other aromatics. Some styptics and astringents are also employed, such as the decoction of galls, pomegranate flowers, &c. In northern climates, friction with snow is the best of all topical remedies. Some saline solutions are also recommended. M. Lisfranc uses with success the chlorurets of the oxides of sodium and calcium in chilblains, both ulcerated and entire. He places on the affected parts pierced compresses smeared with cerate, and covers them with a considerable mass of charpie steeped in those solutions at the strength of three degrees of the chlorometer of Gay Lussac. The bandages, &c., must be kept constantly wet. This treatment may be employed, however intense the inflammation, but we must take care to diminish the strength of the liquid when it causes too much pain, and, on the other hand, to increase it when not sufficiently active. Borax has been proposed in the proportion of two drachms to the ounce of rose ointment. The pained parts are sometimes rubbed with beef marrow dissolved in spirits of wine. Mutton suet, mixed with brandy, is also occasionally useful. When the inflammation is very violent, we have recourse to substances merely relaxing, such as lotions with decoctions of mallows, solution of starch, spermaceti cerate, and various mucilaginous substances.

Burns.

The curative means to be employed in *erythema by adustion*, remain to be indicated. Here we have only to treat of burns of the first and second degrees.

When this erythema occurs in a supefircial form, what is of chief importance is to prevent vessication, for negligence in this respect may determine serious ulterior irritations, and prolong the duration of the evil. Instinct always impels the person who has met with such an accident to have recourse to the refrigerant method, one which doubtless leads to the most desirable end, namely, the facilitation of resolution. The Arabs understood the nature of this treatment well. Iced water, Goulard, alcohol, and ether, are known as advantageous applications. I cannot say to what extent the raw cotton, praised by several individuals, may be found to answer their expectations. It can be of no utility but in the second degree of the inflammation. In this case M. Jules Cloquet has recourse to the down of a species of marsh bull-rush (*phyta latafolia*, Linn.), which he regards to be of sovereign utility in the treatment of burns, in order to absorb the pus, to defend the affected part from the contact of the air, and to avoid other serious complications.

The development of *phlyctenæ* is a more intense degree of the deleterious action of heat. These phlyctenæ are especially abundant wherever the skin is tender, delicate, and relaxed. The custom is to evacuate them from their lowest part, at the same time preserving them from the too active influence of the atmosphere. The burns are then dressed with soft cerate, and partially oleaginous baths and embrocations are employed. The local irritation may also be restrained by cataplasms of potato starch, with semolina boiled in milk or in the decoction of ether.

It is asserted that in the treatment of burns M. Lisfranc has obtained the same success as in that of chilblains, from the solution of the chlorurets of lime and soda. We must also use some internal remedies. The fever is allayed by abstinence, by diluent drinks, such as barley-water, flax-seed, infusion, &c. We attempt to appease the pain by mild anodynes, such as the extract of lettuce, and of the corn poppy, the syrup of the white poppy of Karabé, &c. I only point out here the general proceedings, for in these burns the accidents are exceedingly varied, and of very uncertain duration, each of them claiming, we might almost say, a separate treatment to be followed, according to the most prominent indication.

Extraordinary Case of Prince Kourakin.

In early times it is said that all extraordinary cures were announced in the public places, and the mode of their performance declared. I may, on the same principle, mention a case here, which is at the same time consolatory to humanity, and creditable to the resources of art. I have already mentioned the conflagration that took place in Paris, at the ball of the Austrian ambassador. Among the victims of that disastrous evening was the prince of Kourakin, a valued diplomatist, who was healed with wonderful success by M. Piet. The prince was certainly one of those most injured by the fire. When carried home his death seemed close approaching, his forehead was covered with blisters, his eyelids scorched and greatly swollen, his head covered with black burns. Every degree of combustion was present in his person; the left ear was reduced to charcoal, the surfaces of the limbs were deprived of epidermis, the left hand was nearly roasted, the skin black in several places, yellow in others. Where it preserved traces of organization, it came away in detached flakes gorged with blood. Here and there were seen hard, dusky, and insensible eschars; the nails were either torn off or else loose. The pain was so horrible, that the patient uttered piercing cries. He experienced faintings and convulsions. His sufferings had been much increased by the numerous military orders, &c., which shone on his dress. Some of them were melted on his breast, and his diamond rings were converted into so many fiery circles, which strangulated his fingers. The first dressing, consisting of almond oil and lint, covered with an opiate cerate, was spread over the enormous sores, by which means the pains were slightly relieved. The pulse however rose, became hard and frequent. Fever set in with all its vehemence. Soon after he became calm, complained little, and was in a state of mental stupor. It was now found that the skin had been burned through to the muscles. On the fifth day the scalp swelled considerably, and soon after erysipelas of the face supervened, M. Dubois, and some other practitioners, were now consulted by M. Piet. Inflammation of the meninges was apprehended. The heat of the atmosphere was moreover excessive, and general gangrene seemed by no means unlikely.

To ward off these fearful accidents, the prince was placed on the use of the decoction quinquinæ by the mouth, and injection, with the addition of a little camphor. Diluent drinks and rigorous abstinence were enjoined. Poultices were applied to dissipate the swellings of the scalp. The other surfaces were dressed with cerate. The arm and forearm, which were the parts most injured, were covered with doubled cloths steeped in camphorated spirits, renewed at intervals. The most minute attentions were, moreover, lavished on the patient. Servants agitated the atmosphere about his person. His bed was surrounded by basins filled with ice. At certain hours his apartment was filled with odoriferous plants and vinegar, and aromatics were continually kept burning. On the 6th of July he felt a little relieved. Some broth was given, and the bark continued. The eyelids commenced to open, and hopes of recovery were now entertained. The sores now followed their regular course, frequently, however, retarded by various thwarting incidents. Hemorrhage supervened, and caused great weakness, and the prodigious suppuration increased this state of prostration. Occasionally, horrible pain was experienced on the separation of some of the burned portions of the skin, and the consequent exposure of new and raw surfaces. The dressings always lasted two hours, and occasioned such torture, that to prevent fainting, it was necessary to intermit them occasionally.

Notwithstanding all this, on the 20th of July the patient felt an appetite for solid food, and from the 27th of July the progress of convalescence was uniform. Finally, after ten weeks of sufferings, M M. Piet and Dubois had the satisfaction of witnessing a perfect cure, effected by their inventive genius and sagacious treatment. We cannot but admire the gradation of the means they employed to moderate this enormous inflammation, to allay the pain, to direct the suppuration, to prepare the fall of the eschars, to dry the ulcerated surfaces, to correct the deformities, and to arrest, in fine, the sympathetic disorders which occurred every moment. There was a time when the treatment of burns, was an object of speculation to the empiric, but we see by their details that to effect such a cure requires the dexterity of an ingenious surgeon, the intelligence of a skilful physician, and all the resources the consummate practitioner can command.

Baron Alibert.

MODE OF CONDUCTING OPERATIONS.

I may begin this part of the subject by observing, that in conducting an operation, the surgeon ought himself to attend to all the requisite minutiæ. He should, previous to the day of operation, see that there is a fit chamber for its performance, that the light of the room is adequate, and that there is a proper table or chair for the patient to be placed on during the operation, and a proper bed for him after it.

With respect to the *light*, it is always essential that he should consider well beforehand the position in which the patient is to be placed, and his own position that these may be so arranged as to produce no shade to interrupt any step of the operation being distinctly seen. For this purpose, he must likewise pay attention to the arrangement of the places for assistants and by-standers.

The next thing to which attention ought to be directed, is the *position* of the patient. Surgeons are often in the habit of performing some operations with the patient in the erect posture, which could be executed much more advantageously were they placed in a horizontal position, on a table or sofa. In all operations, where much steadiness on the part of the patient is required, or where he is to suffer much pain, I find great advantage from securing him on a table. The table should be firm and strong, and, for most operations, you will find one of six feet in length, two in breadth, and three feet high, answer the purpose. There are some particular operations wherein great nicety in the choice of the table is necessary, but these will be pointed out in their proper place. The table should be covered with a few folds of blanket, and there should be proper pillows to support the head. I also find great advantage from having an inclined plane, like a reading desk, on the head of the table; and instead of the common pillow, half a small cylinder of wood answers particularly well, placed under the neck. It keeps the head and neck securely in one position during operations in these regions — an object which it is difficult to accomplish with a common pillow. There are some operations wherein a proper chair is sufficient for the security of the patient, more particularly those on the eye, nose, throat, &c.; and a chair ought to be preferred, when admissible, as it appears less formidable to the patient. In performing operations on infants, great facility and security are afforded by placing the trunk of the body and limbs in a linen bag, open at both ends, and sufficiently tight to keep the arms close upon the side, and prevent the limbs from bending.

The *Bed* for the patient should be well chosen, and should consist of two hair mattresses in preference to a feather-bed, and placed in a proper part of the chamber. It is a good general rule, to make the patient lie one or more nights in the bed which he is to occupy after the operation. The advantage of this is, that he is enabled to sleep more tranquilly, from being accustomed to the bed. When it is necessary that the patient should remain in any particular position after an operation, or continue in one position for a considerable time, it is then advantageous to attend more rigidly to the previous arrangement of the bed, and it is proper for him to sleep in it longer, or even to make him lie, for some time, in the position in which he will be required to remain after the operation.

I received this useful practical lesson from Mr George Young, than whom I never knew any individual who practised surgery with greater sagacity, observation, and intelligence. It is particularly applicable to cases of operation on limbs, such as for the removal of the moveable bodies which form in joints. In such cases Mr Young not only placed the patient in bed for some days *previous* to operating, but he even put up the limb in the splints and bandages which were to be applied *after* the operation.

It is an excellent rule not to confide to others the selection and arrangement of the instruments and apparatus necessary for an operation. The operator himself ought to plan every step of the operation, and you will find it a kind of rehearsal to make a list of everything required, and yourself to place and examine every necessary instrument. This enables you to dwell and reflect on every possible point relative to the particular case, so that when you come to the actual performance of the operation, in place of confusion and delay, which so often occur in public hospitals from the surgeons confiding to others, the whole will be conducted systematically, and everything like hurry and bustle completely avoided.

Instruments. — All the instruments ought to be laid out in proper order, and covered over, so that the patient may not witness the preparations which are required. Pains ought also to be taken to avoid all exhibition of blood, as the sight of that never fails to create disquietude in the minds both of the patient and his surrounding friends.

The necessary preparations should be made as far as possible, without the knowledge of the patient; and there is nothing the surgeon should so much avoid, as by his dress, to impress him with an idea that the operation will be attended by much bloodshed. It used to be a very general custom, and one which still I fear prevails with some, more particularly in public hospitals, that the surgeon attires himself in such a dress as to give rise to an impression that he is about to perform the duties of an executioner rather than those of a benefactor! On such occasions it is easy to contrive so to dress yourself that any small quantity of blood which may be spilt shall not be conspicuous.

The Assistants. — I have already urged that it is of great importance to guard against anything like bustle and confusion during the performance of operations. These are to be avoided by a strict attention to arranging the duties which assistants have to perform before the operation is commenced. Want of attention to any circumstance, however trivial it may seem, is apt to disturb the calmness and tranquillity of the operator: and though it may not always be observed, yet any appearance of hurry will also create more or less agitation in the mind of the patient. Each assistant ought to have his particular duty assigned to him, and you will find it a good rule to assign to each his particular office, before the patient is brought into the room where the operation is to be performed, as this not only prevents delay, but all appearance of confusion, which occurrence would at that time not only alarm the patient, and protract his sufferings, but would also, more or less, distract the mind of the operator.

Whenever an operation is to be performed, however trifling it may appear in a medical point of view, it is of great importance always to have a sufficient number of assistants. You ought, indeed, to calculate the number of *hands* which may be required at any one period of the operation, and it is an excellent plan to select the number which may be requisite, giving each assistant the necessary instructions before the patient is brought into the room. When things are thus methodically arranged, much time is saved to the operator, a great deal of anxiety to the patient, and the whole operation is completed without the slightest confusion or appearance of hurry. Besides an assistant to take charge of the instruments and another to manage the sponges, it is very useful to have a sufficient number to secure the patient perfectly; for however courageous many persons may be before the operation, they often feel disappointed, as regards the degree of pain, and the time occupied in performing it, and the mind becoming fatigued and irritable, the sufferer has no longer the power of controlling himself, and is unable to remain steadily in the same position. You ought therefore to trust alone to assistants in order to secure the patient's immobility. It is also a prudent measure never to allow any unprofessional bystanders to be present during an operation, as such persons are very apt to become agitated and alarmed, and more or less to interrupt the operator, as well as to discompose the patient.

It is always advisable never to converse with patients, or reason with them, during the performance of an operation; the time to fortify and tranquillize the mind ought to be before it is commenced. It is proper, likewise, to give an explanation to the patient of our own belief as to the probable duration of the operation and of the degree of pain which he is to suffer. If it be an operation wherein the pain will in all probability be trifling, endeavor to impress that on his mind; whereas, if he be to endure severe and protracted pain, it is much better to give him a correct impression of what he is to suffer. The effect of acting in this manner I have generally found to be that, with patients of the former description, is saved a great deal of unnecessary fear, while you enable those of the latter description to fortify their minds against that which would have cost them much more agitation and excitement had they not been thus prepared to meet the event.—*Wardrop's Lectures.*

A NEEDLE BURIED IN A MAN'S HEART.

The following case was lately reported to the Academy of Medicine, by M. Renauldin. A man of the name of Louvet, a *limonadier*, from Calvados, came to Paris on the 13th June last, and took a lodging near the Barrier du Roule. He seemed very absent in manner; spoke in monosyllables; usually left his apartment early in the morning, and did not return till late at night. On the 29th there was found after him a note, in which he said he had always been an honest man, and would die so in the course of five or six days. On the 6th July, he took to his bed, kept an obstinate silence, and was occasionally delirious. The following night he was found half strangled, with a cord round his neck: on being questioned, he said he did not know what he was doing, but that there were some villains who wanted to hang him, &c. He was taken to the Hôpital Beaujon next day; when he said, that about two months before, he had had shivering, vomiting, pain in the side, and bloody expectoration. The cerebral symptoms now became aggravated; the pulse was 127; respiration 27; decubitus on the left side. In an effort to rise, he fell back and expired.

On examination of the body, a large quantity of sero-purulent fluid was found in the pericardium. The apex of the heart was adherent; the heart itself more large and lengthened than natural. In the substance of the right ventricle was found embedded a needle, which extended into the cavity. The lungs were gathered up towards the top of the chest. No trace of a cicatrix, by which the needle might have entered, could be discovered on the exterior of the body.—*Gaz. des Hôpitaux.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I. — DYSURIA AMENORRHAGICA.

By A. A. GOULD, M. D.

THERE is a species of dysuria very common in its occurrence, and very distressing in its consequences, which we do not find treated of, if it is even mentioned, in books. It is consequent upon a sudden suppression of the catamenia, and occurs mostly in young, unmarried females, at service. Though not the primary affection, it soon becomes the most urgent complaint, and continues long after the menstrual function has been reëstablished. The whole character and conduct of the patient is different from what we find in simple amenorrhœa, and a train of peculiar symptoms arise of sufficient importance and singularity, to entitle the affection to consideration as a distinct disease. As such, it has been for many years observed by Dr Jackson, and taught in his public lectures on the Theory and Practice of Medicine. He has also communicated his observations upon it, in a paper published by the Massachusetts Medical Society, Vol. V. part I. It is also dwelt upon by Dr Channing in his Lectures on Midwifery. I find no mention of the disease in any work, except in Friend's Emmenologia, where dysuria is simply enumerated among the phenomena of suppressed menses. Dr Parsons, in his Boylston Prize Dissertation on 'Irritable Bladder,' mentions a painful affection of the bladder ensuing from a sudden check of the catamenia, and quotes a reviewer of Bingham's book on Irritable Bladder, as follows:

'One affection of the bladder he has not noticed, and we know of no one who has particularly described or attended to it. It is a very distressing affection, produced by a sudden check of the catamenia. It has been mistaken for and described as an affection of the uterus; it is, however, seated in the bladder.' Both these writers were at the moment speaking of irritable bladder, and it is not probable they had in view the dysuria of which I would speak.

I have said that this complaint is of very common occurrence. Many may discredit this, and reply, that they have seen numerous cases of sudden suppression of the menses, but never a case of dysuria in consequence. That they may never have suspected or inquired for such a concomitant, is very possible ; and yet it is very probable that had strict inquiry been made on this point, and the whole truth told, it would have been found present, in greater or less degree, in a majority of cases. There is always difficulty in getting at the truth, however. The patient will never complain of the affection, and when questioned as to the fact, will almost uniformly deny it. Such is the delicacy of the female in regard to all diseases of the urinogenital organs, that not only from the physician, but even from mothers and nurses, their existence will be withheld ; and unless carefully watched, they will manage to elude detection, till the intensity of suffering extorts a confession. Individuals, the most scrupulously veracious on ordinary occasions, have been known to prevaricate on this ; and it is exceedingly vexatious, after having for several days made inquiries so numerous, and of such a nature, that one would suppose no ingenuous person could evade them, to find at last that we have been deceived. The only mode of assurance is, to oblige the patient to preserve and exhibit the urine evacuated.

We can rarely expect to meet with such cases in private practice. It is only in large public institutions, where chronic cases of an obscure character in the class of people subject to this complaint, are usually sent, and where patients are closely and constantly watched, that they become subjects of treatment. It was during a year's residence at the Massachusetts General Hospital, 1828—29, that I had an opportunity of observing the cases on which the accompanying remarks have been founded, and which have been confirmed by subsequent observations.

The practitioner who has seen three or four cases of this affection, finds the diagnosis not difficult. He is prepared for that propensity to misrepresentation which is in fact a part of the disease, and accounts for many phenomena that would otherwise be inexplicable.

On entering the room, the patient will probably cover her face, if she have not previously done so, and reluctantly allows the covering to be removed — keeps the eyes closed, or averted — manifests great uneasiness and petulance when questions are asked, as if wishing to evade them, or to appear not to understand them — rolls from side to side, and frequently draws deep sighs. The countenance is perhaps a little flushed, and the pulse a little accelerated, as in ordinary cases of agitation; but they are otherwise natural. The patient appears evidently in great distress, but does not refer this to any definite spot — or is willing to allow it to exist in any part you suggest, and seems satisfied if she can withdraw the attention from the true source of suffering. The amount of suffering is out of proportion to any known difficulty. If, in addition to this state of things, we are aware that there has been a sudden check of the catamenia, we need have no hesitation in declaring to the patient that there is this retention of urine, and of proceeding to examine the hypogastrium, when the vesical tumor confirms our suspicions. Even now we may be diverted from the difficulty, if we allow ourselves to listen to the declarations of the patient, that she has lately passed water, and that in sufficient quantities. Patients may be honest in saying this, deceived by the stillicidium which usually ensues after long retention; when, if the catheter be passed, two or three pints of urine may be found in the bladder.

A most careful investigation is incumbent on the physician. The patient not being aware of the importance of the difficulty, or if so, being unwilling to disclose it, it lies with him alone to make the discovery. The speediness of the relief and cure depends much on an early detection. It is delay which causes that to become a disease which was before but a symptom; and there can be little doubt that if it were attended to in season, no serious consequences would ever ensue.

In recent cases, where instant relief is required, it may be well to administer cathartics, diuretics, alteratives, fomentations and bath, to satisfy the mind of the patient, and perchance to dispense with more unpleasant means. But should these means be unsuccessful, it is the duty of the physician to be plain and decisive. He must use the catheter, notwithstanding the patient's modesty may revolt. This is the most speedy, and in cases of long standing, the only efficient means of relief. The patient once submitting, the catheter passes without obstruction, and the urine flows off forcibly and entirely, of a dark color, and fœtid odor. If the patient have not neglected herself too long, the function of the bladder is usually reëstablished, after two or three, or perhaps the first operation.

But should this not be the case, new trains of symptoms arise. Not only is the suffering from distention of the bladder to be endured, but the bladder itself becomes diseased in its organic structure, as we have every reason to believe, though this has not been ascertained by autopsy. There ensue pains in the side and groin, and also near the meatus urinarius; vomiting of food, delirium, globus, and a long train of hysterical and anomalous affections.

Twelve cases occurred at the Hospital during the year referred to, and the number has not been diminished in subsequent years — which is sufficient to make good the assertion that the disease is not of unfrequent occurrence. But as it would be tedious to relate these cases in detail, I shall only state results from a view of the whole. They all commenced in the same way — were characterized by great unwillingness to answer questions — a desire to hide the face — hysteric paroxysms, more or less severe, and in all, a denial of the fact, persisted in to the last. In one case the hysteric paroxysms seemed to assume an intermittent form, and occurred invariably within half an hour of the same moment, if the catheter were not employed.

In five cases dyspeptic symptoms were prominent — inability to retain either liquids or solids on the stomach.

In some there was a complete loss of desire to evacuate the bladder, and in one case pressure above the pubis was requisite to effect the evacuation. On removing the pressure, the parietes of the abdomen returned rather suddenly, and air was heard to rush into the bladder through the catheter, much in the same way that air rushes into a gum elastic bottle, on removing pressure. This phenomenon occurred for several days, and might be accounted for by an adhesion of the fundus of the bladder to the parietes of the abdomen, and if so, some inflammation must have occurred in its peritoneal coat.

The number, variety, and severity of the mirmotic (symptoms) diseases, arising in this way, is remarkable. When we have a patient laboring under a variety of complaints, occurring in different organs, without any regularity or conceivable link of connection, it may always be well to suspect and inquire for this state of the urinary function. Sometimes they may all be traced back through a long series of years to this primary difficulty.

Mrs S. aged fifty-eight, after exposure and wetting the feet, was affected with retention of urine and symptoms similar to what have been described. In her, the catamenia had ceased eight or ten years previously. On inquiry, however, it was found that she had been subject, occasionally, to similar difficulties for thirty or forty years, and that they originated in the manner I have mentioned in other cases. In her, displacement of the bladder and uterus had supervened.

Why, or in what manner this retention takes place, I shall not presume to decide. We know that an intimate sympathy obtains between the bladder and uterus, both on account of their proximity (contiguity) and their nervous connexions. Most probably, a low degree of inflammation is created in the pelvic viscera, (especially in those parts which are in contact with the uterus, and are supplied by the same blood vessels,) by the sudden reversion of a copious discharge, which nature has ordained from this part. The portion of the bladder most immediately in contact with the uterus in its unimpregnated state, is its neck; and this we conjecture to be the seat of the disease. The evidence in favor of this supposition is 1st, that when the catheter is introduced, the urine flows off pleno rivo, till the bladder is wholly evacuated, which shows that there is no difficulty in the detrusor muscle. At least this is the case in the commencement of the disease; but power is daily lost when retention is allowed. 2. The remedies which have proved beneficial, have been alteratives or sedatives, while stimulants, diuretics, and the like, have been inefficient. In one case the influence of fear was very conspicuous. After cathartics, Spt. Eth. Nitro, fomentations, &c, had been used without effect, the obstruction gave way on the approach of the catheter. 3d. The urine discharged shows no marks of disease in the coats of the bladder.

If this supposition be correct, the indication for cure is plainly directed to diminish action at the neck of the bladder. For this purpose, if the difficulty be early discovered, a purgative, saline or mercurial, should first be administered. Hot fomentations about the pubes and perineum may be employed during its operation. This, with slight alterative doses for a day or two, will often effect a cure. A blister to the perineum till the cuticle is raised, may be beneficial. If permanent relief be not obtained by these means in three or four days, or if the patient have already borne her sufferings for a considerable time, the only hope is in the constant and regular employment of the catheter. The cure by this means would undoubtedly be much accelerated could the patient herself make use of the instrument, whenever necessity should occur.

ART. II. — CASE OF TUBULAR PREGNANCY.

THE following interesting case of extra-uterine pregnancy was related at a late meeting of the Boston Society for Medical Improvement, by Dr Fisher.

Since the last meeting of the Society, I have, for the first time in my life, met with a case of tubular pregnancy. The lady in whom it occurred was eighteen years of age, and had been married ten weeks. Previous to her marriage she enjoyed good, but not robust health, and was uniformly regular in her menstruation. The catamenia appeared on the day of her nuptials, and occurred again, as she thought, at the end of three weeks — and again in two weeks more. The discharges at both times were unusually profuse, were of a bright red color, and continued to flow for the space of a week without much intermission. From this last period the discharge frequently appeared, and on any considerable bodily exertion it became profuse and caused faintness, and in two instances complete syncope. From this state of things it was supposed impossible that she should be pregnant. For a week previous to her death she was as well as she had been for some time — and in the morning of the day on which she became sick, she was unusually cheerful and active. She exercised freely that morning, and became somewhat fatigued by her exertions.

At 11 o'clock, A. M., a profuse vaginal discharge took place, and she became excessively faint; — at 1 o'clock P. M. I found her almost speechless, her face and lips pale and colorless; skin cold and bedewed with moisture. The pulse at the wrists could scarcely be felt, and when they could be felt distinctly they were small, and rose against the finger like a slightly vibrating cord. Under the use of brandy and water, and hot flannels applied externally, she revived so as to be able to converse. She continued in a fluctuating state till 9 o'clock in the evening, when reäction seemed pretty fully established; the color and warmth of the surface had returned, the pulse was full, and she was rather flushed. Having taken a little gruel she soon fell asleep, and continued in this state until about half-past 3 o'clock in the morning, when she awoke quite faint, and so continued till 7 o'clock when she died. There were no marked symptoms of inflammation, but she complained of a slight tenderness and dull pain in the region of the right groin, and a sense of fullness in the bowels. On examining the abdomen with the hand, an unusual degree of fullness was observed at the lower part of it, and a slight pain produced just above the right groin by pressure. Most of these symptoms were relieved by the operation of castor oil and by an enema. In the course of the night, however, and after the recurrence of the fainting, she again complained of the pain and tenderness of the bowels as before.

On post-mortem examination, which was made about thirty hours after death, the peritoneal cavity was found to be filled with serum and coagulated blood. The serum was copious, and I first imagined it to be dropsical effusion, but I soon found it to be the serous portion of the blood which had been poured into the abdomen. The coagulated blood was very firm, and adhered strongly to the organs which it covered. The quantity of blood taken out was supposed to amount to about three quarts; and yet a considerable quantity of the coagula remained in the cavity of the pelvis and about the organs, so firmly adhering to the parts that it could not be separated. This portion of the blood was characterized by a peculiar coloring property, resembling iron rust, which stained the hands for a number of days after the dissection.

The uterus measured 3¼ inches in length, and was in every way decidedly enlarged; — its inner surface was softened and covered with an abundance of viscid, nearly colorless secretion, but no formed membrane. Upon the surface of the left ovary was a simple cyst about the size of a nutmeg, and a second but much smaller one near it. There were also one or two others, quite small and pedunculated, attached to the fallopian tube.

On the right side, the ovary was healthy; the outer half of the fallopian tube was found to be enlarged to about the size of the thumb, and nearly midway between its fimbriated extremity and the uterus, a rupture, two or three lines in diameter, was found in it, through which issued the fatal hemorrhage. On laying open the tube a perfect ovum was found in its enlarged part, and a portion of the placenta protruded into the abdominal cavity through the rupture just described. From this small protruding portion of placenta the hemorrhage proceeded and passed into the peritoneal cavity.

The fœtus measured $\frac{3}{4}$ of an inch from the vertex to the coccyx. The lower extremities were about two lines in length; the upper ones not so long. The fingers and toes were quite distinct, as were the eyes, mouth, and ears; the last appeared like simple foramina.

The diagnosis in this case was difficult and exceedingly embarrassing. The symptoms, it was true, indicated internal hemorrhage; yet I had seen similar ones produced by other causes — and the real cause indeed, was the last one which the strictest observer would have thought of, as that which gave rise to the symptoms described. The short time the individual had been married — the assurance that she menstruated, (irregularly it is true), and that her menses were then upon her, were sufficient to authorise me to believe that pregnancy had no concern with the case; but post-mortem examination proved that pregnancy did exist, and its peculiar character, and the lesion produced by it, fully accounted for all the symptoms the unfortunate lady exhibited during, and for a considerable time previous to, her last sickness. Besides the important practical bearing which the facts developed by this case have, they are interesting in a physiological point of view. The situation in which the ovum was found, in the first place, proves, if proof were wanting, that conception does not take place in the womb as was once supposed — and that it must take place beyond at least the middle of the fallopian tube. In the second place, the fact that nothing resembling a membrane was discovered within the cavity of the uterus, would seem to render doubtful the common received opinion that impregnation gives rise to and is always followed by the formation of a diciduous membrane within that organ. The uterus did contain some light viscid secretion, but its inner surface was entirely destitute of any membranous covering whatever, and was smooth and glossy.

In the third place, were the frequent vaginal discharges which the patient was subject to, what she supposed them to be, viz. her menstrual evacuations, or, since this fluid was more sanious in character than her regular monthly secretions commonly were, might it not have been blood which escaped from the ruptured placenta, and passed into the womb through the fallopian tube? From the circumstance that it resembled blood, and that the discharge became more frequent and increased in quantity as the ovum was developed, it would seem that the ruptured placenta might have been the source of it.

ART. III. — DEATH — ITS CRITERIA AND CONSEQUENCES.

UNDER this head we propose to treat of those causes by which life is suddenly or quickly extinguished in persons previously in the apparent enjoyment of good health. Cases of this kind are peculiarly the objects of legal investigation by the coroner; and, as all medical men are liable to be called on to assist him with their professional information and opinion, it is of the utmost importance that clear notions of the true nature of the phenomena that present themselves should be entertained. The object of such inquiry being to ascertain whether death was natural, or owing to some accidental cause, the whole subject of sudden death may be conveniently arranged under two heads, namely: 1, sudden death from natural causes; 2, sudden death from violent causes; comprehending under the latter every variety, whether the result of accident or of criminal intention.

Our first duty on the discovery of a supposed dead body is to ascertain whether any spark of life still remain, by rekindling which, animation may be restored; and this leads us, before entering on the causes and phenomena of sudden death, to consider the states of body that may resemble death, and to point out the means of discrimination between those cases in which life is really extinct, and those in which the exercise of the vital power is only suspended. Nothing is more certain than death; nothing is at times more uncertain than its reality: and numerous instances are recorded of persons prematurely buried, or actually at the verge of the grave, before it was discovered that life still remained; and even of some who were resuscitated by the knife of the anatomist. Pliny, who devotes an entire chapter to this subject, entitled 'De his qui elati revixerunt,' amongst other instances gives that of the Roman consul Avicula, who, being supposed dead, was conveyed to his funeral pile, where he was reanimated by the flames, and loudly called for succor; but before he could be saved, he was enveloped by the fire and suffocated. Bruhier,* a French physician, who wrote on the uncertainty of the signs of death in 1742, relates an instance of a young woman, upon whose supposed corpse an anatomical examination was about to be made, when the first stroke of the scalpel revealed the truth: she recovered, and lived many years afterwards. The case related by Philippe Peu is somewhat similar. He proceeded to perform the Cæsarean section upon a woman who had to all appearance died undelivered, when the first incision betrayed the awful fallacy under which he acted. A remarkable instance of resuscitation after apparent death occurred in France, in the neighborhood of Douai, in the year 1745, and is related by Rigaudeaux, to whom the case was confided. He was summoned in the morning to attend a woman in labor, at a distance of about a league. On his arrival, he was informed that she had died in a convulsive fit two hours previously. The body was already prepared for interment, and on examination he could discover no indications of life. The os uteri was sufficiently dilated to enable him to turn the child, and deliver by the feet. The child appeared dead also; but by persevering in the means of resuscitation for three hours, they excited some signs of vitality, which encouraged them to proceed; and their endeavors were ultimately crowned with complete success. Rigaudeaux again carefully examined the mother, and was confirmed in his belief of her death; but he found that, although she had been in that state for seven hours, her limbs retained their flexibility. Stimulants were applied in vain; and he took his leave, recommending that the interment should be deferred until the flexibility was lost. At five P. M. a messenger came to inform him that she had revived at half past three. The mother and child were both alive three years after. There is scarcely a dissecting room that has not some traditional story handed down of subjects restored to life after being deposited within its walls. Many of these are mere inventions to catch the ever-greedy ear of curiosity; but some of them are, we fear, too well founded to admit of much doubt. To this class belongs the circumstance related by Louis, the celebrated French writer on medical jurisprudence. A patient who was supposed to have died in the Hôpital Salpêtrière, was removed to his dissecting room. Next morning Louis was informed that moans had been heard in the theatre; and on proceeding thither he found, to his horror, that the supposed corpse had revived during the night, and had actually died in the struggles to disengage herself from the winding-sheet in which she was enveloped. This was evident from the distorted attitude in which the body was found. Allowing for much of fiction, with which such a subject must ever be mixed, there is still sufficient evidence to warrant a diligent examination of the means of discriminating between real and apparent death; indeed, the horror with which we contemplate a mistake of the living for the dead should excite us in the pursuit of knowledge by which an event so repugnant to our feelings may be avoided.

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* 'Dissertation sur l'incertitude des signes de la mort, et l'abus des interremens et embaumens précipites.' Bruhier mentions 180 cases in which persons still living were treated as dead; of these, 52 were buried alive, 4 were opened before death, 53 revived spontaneously, after being placed in their coffins, and 72 were supposed to have died when they really had not.

Life consists (at least as far as we can perceive) in the presence of a preserving principle proper to all organized beings, and peculiar to each species, which opposes itself continually to the influence of the physical and chemical agents that surround us. The effects of these agents in altering the forms and nature of inorganic substances we daily witness, while our frames resist them in every latitude. This power, in conjunction with sensation and motion, constitutes the state of life; a state which subsists as long as this power remains. But we do not see this power; it only renders itself sensible by the motions given to the heart, lungs and other organs; and it is by the existence of these motions that we generally judge of the existence of life. This isolated abstract principle cannot subsist, as far as we know, without the instruments by which it makes itself visible; it is for this reason that these are to be particularly considered on the present occasion, without in the least, however, diverting us from the consideration of a great first cause. If life depends upon the presence of a force or power continually opposed to the action of physical and chemical laws, real death will be the loss of this force, and the abandonment of organized bodies to these agents; while apparent death will be only the suspension of the exercise of life caused by some derangement of the functions which serve as the instruments of vital action. This suspension may last for a considerable time, if we may judge by the cases collected by credible authors, to some of which we have alluded, and by the numerous instances of drowned persons restored to life after long submersion. From this definition of life and death, it would follow that putrefaction is the only evidence of real death; but in many instances it would be attended with much inconvenience, and often with danger, to wait for this confirmation of the extinction of life. In malignant diseases, and during times of severe general sickness, the keeping of bodies disinterred until putrefaction announced the reality of death, would be a measure fraught with considerable risk to the lives of the survivors. It then becomes desirable that we should be acquainted with those signs by which we may judge that life is extinguished by the interruption of its functions.

As respiration is a function most essential to life, and at the same time the most apparent, the cessation of it may be considered as an indication of death. But as in certain diseases and states of great exhaustion it becomes very slow and feeble, so as to the casual observer to appear quite extinct, various methods have been adopted for ascertaining its existence. Thus, placing down or other light substances near the mouth or nose; laying a vessel of water on the chest, as an index of motion in that cavity; holding a mirror before the mouth in order to condense the watery vapor of the breath; have all been proposed and employed, but they are all liable to fallacy. Down, or whatever substance is employed, may be moved by some agitation of the surrounding air; and the surface of a mirror may be apparently covered by the condensed vapor of the breath, when it is only the fluid of some exhalation from the surface of the body. We, therefore, agree fully with the judicious observations of Dr Paris on this subject. 'We feel no hesitation in asserting that it is physiologically impossible for a human being to remain more than a few minutes in such a state of asphyxia as not to betray some sign by which a medical observer can at once recognise the existence of vitality; for if the respiration be only suspended for a short interval, we may conclude that life has fled forever. Of all the acts of animal life, this is by far the most essential and indispensable. Breath and life are very properly considered in the scriptures as convertible terms; and the same synonym, as far as we know, prevails in every language. However slow and feeble respiration may become by disease, yet it must always be perceptible, provided the naked breast and belly be exposed ; for when the intercostal muscles act, the ribs are elevated, and the sternum is pushed forward : when the diaphragm acts, the abdomen swells. Now this can never escape the attentive eye ; and by looking at the chest and belly, we shall form a safer conclusion than by the popular methods which have been usually adopted.'

The absence of the circulation of blood has been looked on as a certain indication of death ; but this is a test not much to be depended on, for it is well known that persons may live even for hours in whom no trace of the action of the heart and arteries can be perceived. In applying this test, it is necessary to remember that it often occurs that the pulse at the wrist cannot be felt if the limb be extended or averted ; but if it is bent, and the hand turned inwards, it becomes perceptible. We should, therefore, perform this movement, by which the artery is relaxed, and the passage of the blood is facilitated when only feebly propelled. Sometimes, also, the artery can be felt between the thumb and first metacarpal bone when it is not to be found at the wrist. It is well to seek for the artery at the bend of the arm, as the pulse can often be felt there after it has left the wrist. In these examinations it is necessary to press very lightly, lest we should obliterate the pulsation altogether ; and care should be taken to guard against mistaking the beating of the arteries in one's own fingers for that of the artery under examination. The trial should be made at every part where large arteries pass ; and sometimes the proceeding of laying the body on the left side, and placing the hand under the region of the heart, may be adopted. The stethoscope may be used with great advantage in these cases, as any motion of the heart will be sure to become sensible through the aid of this instrument.

The temperature of the body has also been proposed as a guide, but this is very fallacious, as it is well known that the cooling of a body after death is influenced by many circumstances, such as age, habit of body, and the disease of which the person died. With respect to age, it has been observed that the bodies of young persons retain their heat longer than those of old. In fact, in old age, the winter of life, as it has been termed, death is scarcely anything more than to become cold ; and in those cases the temperature of the body is rapidly reduced to that of the surrounding medium. Hence we derive a caution in judging of priority of death among a number of bodies overwhelmed by the same accident; for the body of a young person found warm, and that of an old one found cold, would not indicate that the former had survived the latter.

The habit of body has also been observed to exert an influence over the rate of cooling after death, and it is found, *cæteris paribus*, that fat bodies lose their heat slower than lean, but putrefy sooner. The disease which has destroyed life is a powerful controlling agent in the loss of temperature after death. Thus it has been long known that in apoplexy the body retains its heat for a considerable time. This has been particularly noticed by Portal. Again, in that disease or accident frequently witnessed in tropical climates, the 'coup de soleil,' we are informed by Badenoch that the bodies of the sufferers remain warm much longer than in other forms of death. In most kinds of asphyxia, except that by drowning, but especially in asphyxia by noxious gases, the dissipation of the animal heat is greatly delayed. In cases of the latter description, Orfila found the heat preserved for twelve hours after death; and we are informed by Samoelowitz, that during the great plague at Moscow, the bodies of those who were speedy victims to that disease preserved their temperature much longer than the bodies of those who die by ordinary diseases. Besides these cases, in which the animal heat is preserved to an unusual length of time after death, there are others in which it was rapidly lost during life, and even when there is no danger of death, as in some forms of hysteria, and in syncope. It is also an effect of submersion in water, and is usually observed in the bodies of those restored to life after drowning. Flexibility of the limbs succeeding their rigidity is one of the most characteristic signs of death: we say succeeding their rigidity, because so long as the limbs are flexible, if the flexibility has not succeeded stiffness, we may presume that there are some remains of life. We are indebted to Nysten and Louis for some valuable observations on the occurrence and duration of the cadaverous stiffness. The rigidity of the muscles commences in the trunk and neck; it then spreads to the thoracic extremities, and finally reaches the legs and feet, and in subsiding it follows the same course. Its duration is in proportion to the lateness of its occurrence, it being found to continue longer in those cases in which it commences latest. Its energy and duration are always in a direct ratio with the degree of development and energy of the muscular system at the moment of death: thus it is extremely strong in the bodies of athletic individuals, in those who die of tetanus, or who are asphyxiated by noxious gases whose deleterious action does not affect the contractility of the muscles. In all animals, the moment when stiffness commences is that in which the vital heat appears to be nearly extinct. Professor Louis, from observations made upon more than five hundred subjects after death, found that at the moment of the absolute cessation of the vital movements, the articulations began to become stiff even before the loss of animal heat. Foderé has verified the justness of this observation several times in hospitals, and concludes that the flexibility of the limbs is one of the principal signs by which we may judge that a person is not dead, although there is no other sign of life. During the whole time this contraction of the muscles continues, they resist the action of chemical forces, and it is only when suppleness is restored that putrefaction commences. Nysten regards this stiffness as a measure of the resistance opposed by organic to chemical forces. Life on the point of extinction seems to take refuge in the muscles, and there causes the spasms we speak of, and during their continuance is able to resist the operation of chemical forces.

The occurrence of the cadaverous stiffness is subordinate to the same causes that influence the loss of temperature. We have seen that old age favors the dissipation of animal heat, and in like manner it is observed that the muscular rigidity comes on soonest in the bodies of old persons. The habit of body in which the temperature is longest preserved is that in which stiffness of the limbs is slowest in its invasion; thus the bodies of full and fat persons remain longer flexible than those of meager and lean. And again, those diseases which are followed by a long continuance of warmth are also remarkable for leaving a corpse in an equal degree flexible; while those in which the body is rapidly cooling, as hemorrhage for example, favor the approach of the muscular spasm; and after death from these, the body becomes soonest and sometimes suddenly stiff. From this concurrence between the spontaneous cooling of the dead body, and the supervention of the cadaverous stiffness, it might be presumed that accidental cooling would be followed by a similar effect; and this is precisely what takes place; for bodies left exposed in cold situations, as on a field of battle, are found to become rapidly stiff.

The rigidity of the body is a criterion of great value, as it points out the general contraction of the muscular fibre that occurs shortly after dissolution ; but in regarding it as a test of death, it is necessary to guard against mistaking the stiffness that arises from other causes for the cadaverous stiffness. In persons frozen but not yet dead, or, in other words, susceptible of reanimation, the rigidity of the body is very great, but on close examination it is found not to be confined to the muscular system, but to pervade all parts of the body. The breasts, belly, and skin, are all equally hard with the muscles, to which alone the stiffness is confined in that from death. This, coupled with the crackling noise caused by forcible flexure of a joint, will be sufficient mark of discrimination between the two. Moreover, it can scarcely be a source of error, because it is an effect of the accident to which the person has been exposed, and if it does not yield to the appropriate remedy (the gradual application of heat), it will be an indication that the subject is really dead.

The stiffness that occurs, in certain forms of syncope and convulsive diseases, can never be confounded with cadaverous rigidity if proper attention be paid to the facts connected with it ; for in the former case it takes place immediately after the invasion of the disease, and always precedes apparent death, while the body still preserves a considerable degree of warmth ; whereas the cadaverous stiffness is not observed until some time after death, and when the heat of the body is scarcely sensible. In all stiffness of this kind there is much difficulty in moving a limb ; so far it resembles that from death ; but after having bent the limb, on ceasing to apply the force, it immediately flies back to its former position ; while the dead limb, on the contrary, remains in the position in which it is placed. If death really takes place in any of these convulsive diseases, the muscular contraction ceases with the extinction of the nervous influence to which it was owing, and the true cadaverous stiffness succeeds at the proper time, and runs its usual course. But above all, the termination of the cadaverous rigidity in flexibility serves to distinguish it from every other, and is a certain indication of dissolution.

That peculiar cast of countenance termed from its first describer the *hippocratic*, has been regarded by some as another sign upon which reliance may be placed in judging of the reality of death. It is thus described by Hippocrates : 'The forehead wrinkled and dry ; the eye sunken ; the nose pointed, and bordered with a violet or black circle; the temples sunken, hollow, and retired; the ears sticking up; the lips hanging down; the cheeks sunken; the chin wrinkled and hard; the color of the skin leaden or violet, the hairs of the nose and eyelashes sprinkled with a yellowish white dust.' Such is the alteration in the human physiognomy that usually takes place after death. But it is also produced by the near approach of death; often by the sight of imminent danger; and is also commonly observed in criminals at execution, whatever may be the degree of tranquillity assumed. Moreover, those who perish by sudden death, or of short diseases in which dissolution is not expected, preserve their usual physiognomy; while, on the other hand, the countenance may be pale, ghastly, and contracted in nervous and hysterical affections without extinction of life. Finally, there are some individuals whose integuments during life have a leaden and cadaverous aspect, and whose countenance during natural sleep, puts on an appearance little removed from the hippocratic. From these causes we think that little reliance can be placed on the countenance as a test of death.

The changes that take place in the eye after dissolution are remarkable, and have been regarded by some authors as satisfactory indications of death. These are, the cornea becoming opaque, and covered with a thin, slimy membrane, which breaks in pieces when touched, and is easily removed by wiping; and general flaccidity of the eye-ball, which may be perceived by placing the finger on the upper eye-lid and moving it gently over the surface of the eye; when the point of the finger will sink on coming over the cornea, and a distinct ring will be felt, marking the attachment of this membrane to the sclerotic coat. Certainly these signs are valid in many forms of death, but they do not exist in all, and are, therefore, not infallible. The reason why they are sometimes present and at others wanting, is evident when we consider the causes upon which these changes depend. The cornea owes its brightness mainly to the tension of the eye-ball, produced by a full secretion of the humors. This is proved by evacuating a portion of the humors of a recent eye, when the cornea will become flaccid and opaque; or by taking an eye some time dead, and with the cornea already opaque, and compressing the humors towards the anterior part, when the cornea will reassume its brightness. We find the appearance of the living eye influenced by the same cause, and hence we see the dim cornea in very aged and meager persons produced by a deficiency in the ocular in common with every other secretion. We do not speak of the arcus senilis, but of the general opacity of the cornea observed in such individuals. Hence we can understand why in death after long illness, when the powers of reparation have been for a length of time impaired, the eye should exhibit its want of fullness by a flaccid and dim cornea. On the other hand, we are led to expect, when death takes place suddenly in a healthy person, that the eye will preserve its lustre for a much longer period; and this, experience confirms; for it has been observed that after death by apoplexy, asphyxia, prussic acid, &c, the eyes preserve their integrity for a considerable time, owing to their being at the time of death in a state of tension by the due secretion of the vitreous and aqueous humors. Moreover, it has been observed that in severe diseases of long continuance, and even in some affections of the mind, the eyes have become dim and shrunken, although death may not happen, and thus another source of fallacy arises.

Different physical tests have been proposed for doubtful cases, such as incisions, burns, blisters, cupping, flagellation, &c; but of these it may be said that there are so many instances of disease affecting the nervous system, in which their application causes no sensation in the sufferer, that they will be still less likely to produce any effect on the sensorium in a body nearly deprived of life. The influence possessed by galvanism, in the production of muscular contraction in the living body, has led to its adoption as a test of death; and with certain limitation it is one of considerable value; for although the muscles retain their contractility for some time after absolute death, yet if the death be real, they soon lose it, and become insensible to this stimulus. On the other hand, if the least spark of life remain, the contractility will be also present, and on the application of the galvanic fluid it will be evidenced by contraction. Galvanism thus becomes a test not of life, but of the reality of death, for if the muscular fibre does not obey it, there can be no doubt that vitality is extinguished. It should be recollected, however, that different parts of the muscular system retain their contractility, and consequently their obedience to the galvanic stimulus, for different periods after death. Nysten found, in the body of a guillotined criminal which was given to him immediately after execution, that the contractility of the left ventricle was extinguished in fortynine minutes after decapitation; that of the stomach, intestines, and urinary bladder, continued for fiftysix minutes; while that of the right ventricle and diaphragm remained for two hours. He found the locomotive muscles lose their contractility in proportion to their free exposure to the atmosphere, and those that were not at all exposed continued excitable during four hours; but the auricles of the heart, although in contact with the air during the whole time, did not cease to contract, when stimulated, for four hours and forty minutes. From many similar opportunities of observation possessed by Nysten, he concludes that the muscles cease to be influenced by galvanism after death in the following order: 1, left ventricle; 2, intestines and stomach; 3, urinary bladder; 4, right ventricle—this retains its contractility under galvanism for one hour; 5, œsophagus, for half an hour longer; 6, iris; 7, muscles of animal life; 8, auricles.

We have now alluded to the chief criteria of real death; and we may conclude this part of our subject by stating that those most entitled to consideration are flexibility subsequent to rigidity of the joints; loss of contractility of the muscles under galvanism; and incipient putrefaction. These are not liable to any important fallacies; the rest are, for the reasons already mentioned, more or less equivocal.

It now remains, before we proceed to consider the causes of sudden death, to make a few observations on the changes which the human body undergoes after dissolution; and we prefer doing so in this place, because the subject naturally follows that which we have just discussed, and also because a knowledge of the attendant phenomena and their causes is often of the highest importance to the medical jurist in enabling him to determine the length of time a body submitted to his inspection may have been dead; or the period at which dissection may be attempted with a prospect of useful results. It is sometimes of the utmost moment to the surviving relatives of an individual found dead that it shall be determined at what time death took place; of this a case mentioned by Dr Male serves as a good illustration. At the Lent assizes, held at Warwick in the year 1805, a cause was tried in which a gentleman, who was insolvent, left his own house with the intention (as it was presumed from his preceding conduct and conversation) of destroying himself. Five weeks and four days after that period his body was found floating down a river. A commission of bankruptcy having been taken out against the deceased a few days after he had left his home, it became a question of great importance to the interest of his family to ascertain whether he was living at that period; for if it could be proved that he was not, his property would remain untouched by the legal proceedings. From the changes which the body had undergone, it was presumed he had drowned himself the day he left home; and to corroborate this presumption, the evidence of Sir George Gibbes of Bath was required, as he had lately been engaged in experiments on the changes produced in animal substances by immersion in water. He stated on the trial that it required five or six weeks to effect changes similar to those observed in the body of this individual; and upon this evidence the jury were of opinion that the deceased was not alive at the time the commission was taken out, and the bankruptcy was accordingly superseded.

A few weeks back the writer of this article, in passing along the canal on the south side of Dublin, on a Saturday, observed a crowd collected on the bank; on approaching, he discovered the object of their attention to be the body of a man recently withdrawn from the water. None of the bystanders knew anything of the individual, or of the time at which he had been drowned; but, from the fresh appearance of the body, the general belief was that he had fallen in the preceding evening. From certain appearances (to be more fully treated of hereafter) the writer was induced to doubt the truth of this supposition, and to assert that the man had lain in the water for at least five days. An accidental circumstance served to corroborate this opinion. Seeing the individual well dressed, and not observing any hat, the writer inquired whether one had been found with him, to which he received a negative answer; when a boy, who lived in the neighborhood, came forward and mentioned that a hat and handkerchief were found in the water, at that place, on the previous Tuesday morning, just five days from the time of finding the body. These articles were afterwards proved to have belonged to the deceased. This was a case in which, from the appearances presented by the body, very positive testimony could have been given as to the length of time that had elapsed since death; and in case any question similar to that in the preceding instance was pending, such testimony must have been of the highest importance.

The changes that take place in the body after death may be divided into those that occur before, and those that follow the invasion of putrefaction.

To the first stage belong diminution of temperature, contraction of the muscles constituting cadaverous stiffness, and lividity of certain portions of the surface. We have already taken notice of the causes by which the loss of heat and muscular rigidity are influenced, and therefore it is unnecessary to allude to these phenomena at present. The extensive lividities usually observed on the back parts of the body shortly after death, are entirely owing to gravitation; the blood, still fluid, and no longer kept in its proper course by an impelling power, obeys the physical law by which it is inclined to seek the most depending situations, and this takes place in the interior as well as on the exterior of the body; of which we have examples in the gorged state of the posterior portion of the lungs, and in the vascular turgescence exhibited by the gastro-intestinal mucous membrane in the lowest part of depending convolutions. That all these appearances are the result of gravitation is proved by the fact, that we can produce them in other situations by altering the position of the body; thus, if it be turned on the face, instead of remaining as it usually does on the back, the skin of the face, breast, belly, and anterior parts of the limbs, will be found livid, while the back will retain its natural color, and the congestions in the interior of the body will all be found in the anterior part of the organs. Nay, the lividity, having formed on the back, can be made to disappear, if the body is turned before it becomes cold, and the blood coagulates. Of this the writer has convinced himself by experiment. As it has happened that these lividities have been mistaken for the effects of violence, and suspicions of murder having arisen therefrom, it is necessary, in judging of such appearances, to take into consideration the attitude in which the body may have lain during the first few hours after death, the great extent of surface occupied by them, and the absence of any effusion or infiltration of blood into the cellular tissue. We shall have to recur to this subject when we come to treat of the effects of blows on the dead body, and their resemblance to the consequences of injuries inflicted during life.

The second stage is marked by the occurrence of putrefaction. This is a process peculiar to organized substances, and it seems to follow as a consequence of the manner in which their ultimate elements are combined during life. These elements are few in number — oxygen, hydrogen, carbon, and nitrogen constitute the great bulk of organized substances. Other elements, as phosphorus, sulphur, iron, lime, potassa, and silica, are occasionally present, but in quantities so small as not to invalidate the statement just made. But we find these elements combined in various proportions, and thus constituting the different proximate principles of which our bodies are made up, such as fibrin, albumen, gelatine, urea, stearine, elaïne, cholesterine, &c, which in composition differ from each other chiefly in the proportion of their component elements. Now these combinations are not such as the ultimate elements have the greatest disposition to form; in other words, their natural affinities lead them to different combinations and to the production of more permanent compounds, namely, water, carbonic acid, ammonia, &c. This disposition is controlled by vitality, and as long as it continues, the operation of chemical laws seems suspended; but as soon as life is extinguished, the elements abandon their former combinations, and enter into new ones, and this constitutes putrefaction. The presence of nitrogen expedites this process, and hence vegetable substances, which with few exceptions are deficient in this element, undergo the change more tardily and imperfectly; and some animal substances, as fats, oils, cholesterine, in which nitrogen is absent, are little disposed to the putrefactive fermentation.

The human body, in common with other animal substances, suffers this dissipation of its principles after death; but, as the phenomena attending this change are not constant as to time, order, and results, it is necessary to inquire into those causes that influence its course.

The conditions necessary to the speedy putrefaction of a dead body are the exposure to air, moisture, and a moderate degree of heat. The presence of air, however, does not appear to be essential, although its exclusion retards the process. Putrefaction in vacuo was denied by Gay-Lussac, but some experiments by Guntz of Leipsic have proved the possibility of its occurrence. He took some pieces of human flesh, and having freed them from any air that might be lodged among the fibres by plunging them into mercury, he passed them into jars inverted over and filled with the same fluid. The flesh rose to the top of the jar, and the apparatus was kept in a moderate temperature. Putrefaction went on, but at a slower rate than if the air had been admitted. In a few days the flesh became soft and pulpy, and of a grey color. Gas was generated, which was found to be carbonic acid gas, and some highly fetid fluid covered the surface of the mercury: the flesh had ost one-third of its weight. He also ascertained that blood alone will putrefy in vacuo. For this purpose he placed the fore-finger of his left hand under an inverted jar filled with mercury, and then made an incision into the integuments. The blood rose to the top, and in five days it was found to be undergoing putrefaction; an accident, by which the apparatus was upset, prevented the analysis of the product. These experiments shew that though the presence of air expedites the process, it is not essential.

A moderate temperature is a most important condition. If the heat be too high, it prevents the occurrence of putrefaction by rapidly dissipating moisture; and if too low, the process is equally arrested, and, it would appear, from the same cause,—for the fluids being converted into solids by congelation, are as efficiently deprived of the power of assisting putrefaction (so long as they continue in that state) as if they were altogether removed. The practice of packing salmon in ice, for the purpose of preserving it fresh during long voyages, is a familiar illustration of this point. But the most extraordinary instance on record is the preservation of the mammoth, discovered some years ago in Siberia enclosed in a block of ice, on breaking into which the animal was found entire and fresh. This being a specimen of an extinct species of animal, it is of course impossible to calculate the number of centuries it must have been enveloped in its icy tomb. Below 50° Fahrenheit, the process is slowly performed, and at 32° it is altogether suspended. The temperature most favorable to its perfection is from 60° to 80° or 90°. This is the range of the thermometer during our summer, and hence at this time putrefaction most readily goes forward.

Moisture is an indispensable condition. This is shewn by the readiness with which substances otherwise disposed to putrefy are preserved by drying, as smoked meats, fish, &c; and still more strikingly by the preservation of animals buried in sand. Caravans in crossing deserts have been overwhelmed by the shifting sands, and the bodies of men and camels have lain for centuries until exposed by the same cause, when they were found dry, shrunken, but without any sign of having undergone putrefaction. Instances of this kind have occurred in Egypt, Arabia, and Persia. Chardin mentions the preservation of certain bodies in the sands of Corassan (Persia), where they had been buried 2000 years.

It is supposed that the preserving power possessed by some burying places, as the vaults of the Cordelieres at Toulouse, and those of St. Michan's, Dublin, is owing to the dry and absorbent nature of the surrounding soil. In these situations bodies rarely putrefy, but they undergo a process of natural mummification. The products of putrefaction, when conducted under favorable circumstances, are — water, ammonia, carbonic acid, carburetted hydrogen, sulphuretted hydrogen, phosphuretted hyodrogen, nitrogen, and hydrogen gases, and there remains a friable matter of a deep brown color containing the salts of the body and some carbon.

From these cursory observations it must appear that the transformation of a dead body will be influenced by the medium in which it is placed. The media existing naturally, and to which all others may be referred, are the earth, air, and water. But as these do not exist in a purely separate state, being found mixed together, — as air impregnated with water, water with air, and earth with both, — the term *group* may be given to these combinations. Thus we have earthy group, watery group, and aerial group, by which are meant the combinations usually existing between these media. A group is called cold when the temperature is below 32°; cool between 32° and 60°; warm between 60° and 100°; and hot when it is above 100°.

The metalic oxydes and salts which enter into the composition of the earth exeroise but a small influence in the transformation of a dead body. The action of this medium depends upon the greater or less exactness with which it excludes the access of air and water. Thus sandy soils, which quickly absorb water, and argillaceous soils which collect water round a dead body, differ materially in their effects; in the former, decomposition goes on slowly, and is sometimes as we have seen, altogether prevented; in the latter, putrefaction readily takes place, and sometimes the transformation into adipocire is effected. Fresh ground or garden's which are rich in mould, and the soil of church-yards, appear to act as a sort of ferment which assists putrefaction; for it is found that flesh enters sooner into the putrefactive process when surrounded by substances already undergoing that change.

We have alluded to the formation of adipocire, and it is necessary, before we leave this part of our subject, to make a few observations on this curious phenomenon. Adipocire, so termed from its resemblance to fat and wax, is a peculiar substance of a soft ductile nature and whitish color, produced by dead animal substances undergoing decomposition under particular circumstances. We are indebted to Fourcroy for the first scientific account of this peculiar transformation. His attention was directed to it on the occasion of the celebrated exhumations practised at the ancient burying place *Des Innocens* at Paris, in the years 1785, 86, 87, when from fifteen to twenty thousand bodies were removed for the purpose of eradicating this cemetery. This spot differed from common burying grounds, where each individual body is surrounded by a portion of the soil. It was the burying ground of a large district, wherein successive generations of the inhabitants had been deposited for upwards of three centuries. The remains of the human bodies immersed in this mass of putrescence were found in three different states, according to the time they had been buried, the place they occupied, and their relative situations with regard to each other. The most ancient were simply portions of bones irregularly dispersed in the soil, which had been frequently disturbed. A second state, in certain bodies which had always been insulated, exhibited the skin, the muscles, tendons, and aponeuroses, dry, brittle, hard, more or less grey, and similar to what are called mummies in certain caverns. The third and most singular state of these soft parts was observed in the bodies which filled the common graves or repositories. These were cavities thirty feet in depth, and twenty on each side appropriated to contain the bodies of the poor. Each cavity contained between 1000 and 1500, packed side by side in rows, without any intervening earth; so that it might be considered, when filled, as an entire mass of human bodies separated only by two planks of about half an inch thick. The first of these receptacles, opened in the presence of Fourcroy, had been closed for fifteen years; the coffins were in good preservation, but a little settled, and the wood had a yellow tinge. When the covers of several were taken off, the bodies were observed at the bottom, leaving a considerable distance between their surface and the cover, and flattened as if they had suffered a strong compression. The linen which had covered them was slightly adherent to the bodies, and with the form of the different regions, exhibited, on removing the linen, nothing but irregular masses of a soft ductile matter of a grey white color. These masses environed the bones on all sides, which had no solidity, but broke by any sudden pressure. The appearance of this matter, its obvious composition and its softness, resembled common white cheese; and the resemblance was more striking from the prints which the threads of the linen had made upon its surface. The grave-diggers asserted that they never found this matter in bodies interred alone; but that the accumulated bodies of the common graves only were subject to this change. Fourcroy remarked that the conversion appeared in different stages of advancement, so that in various bodies the fibrous texture and color, more or less red, were discernible within the fatty matter; that the masses covering the bones were entirely of the same nature, offering indistinctly in all the regions a grey substance, for the most part soft and ductile, sometimes dry, always easily separated in porous fragments, penetrated with cavities, and no longer exhibiting any traces of membranes, muscles, tendons, vessels, or nerves. By examining this substance in the different regions of the body, it was found that the skin is particularly disposed to this remarkable alteration. It was afterwards perceived that the ligaments and tendons no longer existed, or at least had lost their tenacity, so that the bones were entirely unsupported, and left to the action of their own weight. In all the bodies so changed the abdominal cavity had disappeared. The integuments and muscles of this region being converted into the white matter, like the other soft parts, had subsided upon the vertebral column, and were so flattened as to leave no place for the viscera; and accordingly there was scarcely ever any trace of them observed in the almost obliterated cavity. The thorax was also flattened, and its viscera were no longer discernible. Sometimes an irregularly rounded mass was found, which appeared to have arisen from the fat and fibrous substance of the heart. The features of the face were converted into adipocire, and no longer distinguishable, and some of the same matter occupied the cavities of the mouth and orbits. The cranium constantly contained the brain, changed into a similar substance. From various observations, it was found that this fatty matter was capable of enduring in these burying places for thirty or forty years, and is at length corroded, and carried off by the aqueous putrid humidity which there abounds.

Adipocire, according to M. Chevreul, consists of margaric acid, oleic acid, a little bitter substance, of an orange colored principle which tinges the acid, of a trace of odorous principle, of ammonia, very small quantities of lime and potass, and some salts. The alkalies we have mentioned partly saturate the margaric and oleic acids. The latter exists in a very small proportion relatively to the margaric, which abounds in this substance. It is easy to perceive from this analysis that adipocire is a soap with double acid and ammoniacal base. Some times, however, the acids are found combined with lime. This has been observed when bodies undergo the change in water containing carbonate or sulphate of lime; and also in earth permitting the infiltration of water which has dissolved these salts in its progress through it. In both cases the ammoniacal soap is first formed, and is then decomposed by the calcareous solution; margarate and oleate of lime, and carbonate or sulphate of ammonia being the result. To prove that such is the case the following experiments were made by Orfila and Leseur.

On the 4th of December, 1828, they interred a stomach, a portion of skin with the subjacent cellular tissue, two testicles, and an omentum, all belonging to the human subject. Each of them was enveloped in linen, and placed in a small deal box, which was buried at a depth of two feet and a half. They were disinterred on the 30th of July, 1829, seven months and twenty-seven days after having been deposited in the ground. In place of the stomach they found about half a drachm of adipocire not in the least ammoniacal, but composed of margaric and oleic acids and lime. The skin presented here and there the appearance of adipocire, and furnished on analysis a calcareous soap; the testicles were similarly transformed. The omentum had preserved its aspect and structure in several places, whilst in others it was changed into a yellowish fatty mass, having the odour of Roquefort cheese, and composed of lime and the acids mentioned above. These distinguished experimenters, although pretty certain that the presence of the calcareous soap at the expense of the ammoniacal, in these substances, was owing to the rain-water in filtering through the ground having dissolved some of the calcareous salts, which having thus got access to the interior of the wooden box decomposed the ammoniacal soap, and changed it into calcareous, nevertheless thought it necessary to prove by direct experiment that it really was so. Accordingly they prepared an ammoniacal soap with pure stearic acid and caustic ammonia, and plunged it into a solution of sulphate of lime. At the end of three weeks, on examining the soap, it was found entirely changed into stearate of lime, and sulphate of ammonia was formed. They made also another experiment: two human stomachs were buried, one in a leaden box enclosed in a wooden one, the other in wood alone: seven months afterwards they were taken up. The stomach contained in the wooden box was transformed into a soap partly ammoniacal but chiefly calcareous, whilst that enclosed in the lead offered no trace of saponification, and was but little altered.

'It is manifest,' say they, 'that in this last experiment, the progress of the putrefactive process had been greatly retarded in consequence of the double envelope, and particularly of the leaden cases; and everything leads to the conclusion, that if the apparatus had remained underground as long as was requisite for converting the stomach into soap, this soap would have been of the ammoniacal and not of the calcareous kind.'

Adipocire is only formed when fat and some azotised substance are found together. The fatty matter furnishes the margaric and oleic acids, and the other the ammonia. This is proved by the following circumstances. Entire dead bodies, or entire parts of a dead body, such as a head, one of the limbs, or the thorax, parts in which are found skin, fat, muscles, &c, are changed into adipocire in stagnant or gently moving water, but an isolated muscle furnishes but a small portion of this substance, and that only when it is rich in fat. Fat washed, freed from blood, and separated from parts which contain azote, is not transformed into adipocire. Neither does the fibrine of the blood, when perfectly washed and free from fat, undergo the change. Orfila found that portions of skin previously deprived of the subjacent cellular tissue, were not saponified after eight months of inhumation; while similar portions of the skin of the same individual, to which the cellular substance was left adhering, and buried during the same time, were converted into adipocire. It appears that a sojourn of about three years in the ground is necessary for the complete transformation of a body, and that the change goes forward more quickly in water; and it is only when a number of bodies are buried in the same grave, that the process is perfect, those at the bottom being the first to undergo it. A thick stratum of earth over the grave is necessary, in order to confine the gases given out in the first stages of putrefaction.

ART. IV. — THE SPRINGFIELD SOMNAMBULIST.

[We have reason to hope that our readers may, at a future time, receive a full account of this curious case from the Medical gentlemen who have attended it. The following brief statement, respecting it, we extract from a letter from one of the Editors of the Magazine.]

— I HAD the pleasure of seeing, a few weeks since, the *sleeping wonder* from Springfield, of whom there has been so much talk in the newspapers. She was then, as she still is, in the State Lunatic Asylum at Worcester, under the care of its intelligent and scientific physician, Dr Woodward. On entering the room of the patient, I found her seated with a gentleman at backgammon, which game she had been learning for a few days. She had the appearance of being 18 or 20 years of age, with a considerable degree of *embonpoint*. She was then in a paroxysm of somnambulism, and was calling the throws of her dice and moving her pieces on the tables, with as little hesitation and with as much readiness, as could have been expected of any one no more familiar with the game than herself, *although her eyes were closely covered with several folds of a common white handkerchief, bound firmly about her head.*

This is the only extraordinary phenomenon in the case, — the wonderful, the marvellous susceptibility of the organ of vision to its natural stimulus. There is nothing of a *miraculous* character in the matter, for the patient does not pretend, and it has never been pretended for her, that she can see with positively *no light*. She has never pretended to distinguish an object while substances absolutely and wholly impervious to the rays of light were interposed between it and her eyes. But that she does see, and that too, distinctly, with a quantity of light almost inconceivably small, is perfectly certain. I played a game of backgammon with her while her eyes were bandaged in the manner of which I have spoken, and the observations on this point have been so numerous and so carefully made that there can be no doubt in regard to it. The day previous to the one on which I saw her, she read fluently and readily from a new book, in a room of common light, with *eight* thicknesses of a linen handkerchief over her eyes. I look upon this as the most remarkable feature of the case, and upon the case itself, on account of this feature, as one of great physiological and pathological interest, showing as it does, authentically, with how small a portion of light the eye may, under certain circumstances, carry on its peculiar functions. You know how common the notion is that somnambulists or sleep walkers have the power of seeing in the dark, or with their eyes shut, and how gravely the learned have explained away the belief, or how sneeringly they have denied the assertion. This is not the first instance in which science, with her proud infallibility, has derived lessons of truth and wisdom from the voice of the *profanum vulgus*. Dr W. thinks that the senses of touch and hearing are also morbidly acute, during the paroxysms, but not to any very remarkable extent.

In other respects the case resembles many that have been already reported by various authors. The patient, for instance, does not remember in the paroxysms anything which has occurred during the lucid intervals, although she frequently recollects in the paroxysms what has occurred during previous ones. In the lucid intervals she remembers nothing that has happened during the periods of somnambulism, the case in this respect running parallel to those cited by Dr Spurzheim in proof of the existence of double consciousness. During this pathological condition of the brain, there is evident and considerable determination of blood to the head; there is also a low, interrupted moaning, indicative of distress, accompanied with a restless and uneasy motion of the head. I understand that for several days the girl has been ill with mild, continued fever, since which there has been no return of the paroxysms.

Yours, &c,

E. B.

ART. V. — CASE OF TRIPLETS, — WITH REMARKS.

By SAMUEL WEST, Jr., M. D., of New-Bedford.

[The following communication was addressed to the professor of Midwifery in Harvard University, and by the favor of a friend was procured for the readers of the Magazine.]

DEAR SIR; — On the morning of the eighth of March, I was called to a case of midwifery, the details of which I have thought might be interesting to you.

Mrs C. D., aged 32, the mother of five or six children, was said to have been in labor four hours when I arrived. The pains being regular, and the waters having passed off soon after the commencement of the labor, she was placed in the proper position, and by examination the head of a fœtus was found nearly ready to pass the external organs. The presentation being natural, it was with one or two pains delivered. As it did not use its lungs, I felt of the chord and found it pulsating. I therefore followed your directions, and moderately resisted the efforts of the womb (while expelling the pelvis and lower extremities) that it might not too suddenly empty tself; at the same time using means to excite the respiratory organs. These, however, proved unavailing, though continued for sometime after the child's detachment from the placenta. Immediately on a subsequent examination, the feet of another child were found occupying the lower part of the vagina. The womb now acted with more rapidity and more power than before, and soon the cries of a second child announced its life.

As soon as this was disposed of, attempting an examination, a large rounded mass was felt descending with considerable force. I made what resistance I could, thinking whether it might not be an inversion of the uterus. Still it descended, the womb acting with greater energy, than when expelling the second child, and before I could use any means, as pinching, or the like, to ascertain the nature of this globular mass, it was about to pass the external organs. At this moment the flow of waters and the cries of another child, told the nature of the case. And although it was much larger than either of those that preceded it, at the same time that it was covered with membranes well distended with liquor amnii, still its passage through the pelvis and external organs was much more rapid, and apparently much more easy than was that of either of the others. This was owing, partly, no doubt, to the dilatation their passage had effected, and partly to the womb being able to concentrate its powers as it became freed of its burthen.

This case perhaps affords no evidence of the doctrine of superfœtation. Although the children were not equally developed, yet the difference was by no means so great as to require this cause for an explanation. The patient by her calculation had gone the full period of gestation. The situation of the placenta seemed to afford evidence that two of the ova came from the ovavium of the left side, and one from the right, for that which belonged to the two first born, was attached to the right side of the body of the uterus, while the other was attached to the left side near the fundus.

Now although this might not have been a superfœtation according to the general acceptation of the term, yet might it not have been the result of two cohabitations, the second being allowed to take place before the uterus was closed, whether by the membranes produced for the reception of the first impregnation, or by the mucus thrown out at its neck?

Such a fact seems to be established by the case recited by Dr Good, from M. Bouillon, who advances this explanation in a case where a negress brought forth at the usual time of pregnancy, 'two male children full grown and of like proportions,' but the one a negro the other a mulatto, — and after long resistance, confessed that on the same evening, she had had connection, with a white and also with a negro. And does not a case of this kind go far to set aside the doctrine of conception being dependent on absorption, inasmuch as the lymphatics might act on semen in the vagina, at any stage of a previous connection, and thus superfœtation would constantly be taking place. Whereas, if it be necessary to conception that the semen should be lodged within the cavity of the uterus, while the parties are cohabiting (whether by propulsion or suction), then the closing of the mouth of the womb, stops the farther increase of offspring.

There is no necessity of supposing two connections to account for this case of triplets, only while we allow that they might have been the product of one cohabitation, we also allow that there might have been two.

These children were all females, and so far as their organization and development depended on the powers of their parents, they might have been reared, had the circumstances of their birth and the nursery been favorable. The first, as above related, was stillborn. This was owing no doubt to the overdistended state of the womb, preventing regular efforts in its delivery ; and thus probably the head had long been suffering from pressure at my arrival; add to which that the waters common to the first two, passed off early, therefore the head of this child performed in part the office of the protruding bag of water. In regular development it was the most perfect of the three, having its navel in the centre of its length, its chord, too, was one third larger than that of its fellow, and it exceeded it in weight eleven ounces. The chord of the third born was considerably larger than that of the first, showing that the size of the chord was in proportion to the size of the children — and the placenta to which it was attached was nearly two thirds as large as that which served the others.

Their respective developments were as follows:

			Weight.
Length of first born,	15¾ inches.	Navel in the centre.	4 lb 3 oz.
" of second born,	15⅜ "	Naval half an inch below centre	3 " 8 "
" of third born,	17¾ "	Naval half an inch below centre.	4 " 9 "

The two placenta with their membranes weighed 2 lbs. 1 oz. These measurements were taken thirtysix hours after birth. I took the dimensions of their heads, but these have got mislaid; they were, however, so far as my experience goes, less under size than were their bodies. In fact, as stated above, had the circumstances of the birth and the nursery been in every respect favorable, they might have been reared. However, the mother not being able to afford them any nourishment at the breast, they were fed by hand. The second-born lived fifteen or twenty days, and the third about four weeks.

The parents of these children lived by the water's edge, where shell-fish abound, and other fish are taken in such plenty that they are distributed a great part of the time, to those asking, 'without money and without price.'

Now as this conception happened in June, in the midst of the fishing season, I think we are justified in attributing this fecundity of offspring in some measure, to the food of the parents.

The above case occurred in Tiverton, R. I., in which town there have been two other cases of triplets, one about seventeen years since, still-born, the other sixty years since, of Indian parents, two of which I have understood attained to manhood.

Your ob't servant,

SAMUEL WEST, Jr.

New-Bedford, Nov. 6th, 1833.

ART. VI. — AN ESSAY TO PROVE THE CONTAGIOUS CHARACTER OF MALIGNANT CHOLERA.

By BERNARD M. BRYNE, M. D.

THIS is a smart little volume of 150 pages, written with considerable talent, and a great deal of controversial zeal; but manifesting withal so much of honesty and sincerity in the author, as to palliate many sentiments and expressions, which would otherwise be offensive and impertinent in the extreme. He declares himself, in the preface, a champion of truth, with a hackneyed appeal to the liberality of the age, in which it is his happiness to live, for protection against the persecutions he professes to anticipate for his bold undertaking in her behalf, and for promulgating to the world what 'members of the medical profession assert ought to be kept a secret from the public, lest the knowledge of the fact might have an evil tendency.' The first rule in the art of persuasion, teaches to conciliate those who are addressed, and, considering how large and respectable a portion of the profession and the public was to be converted, one would have supposed it peculiarly applicable in the present case. But our author clearly prefers the Mahomedan to the Christian method of conversion, and is determined to be either a victor or a martyr in the cause he has espoused.

The contagionists are represented as the only true Cholera philosophers, examining the facts without bias or hypothesis, while others only speculate, or observe through some perverting medium. And not only so, but the consequences of the heresy are adverted to in a manner not very well calculated to conciliate those who hold it, for they and their pernicious advice are pretty clearly held accountable for most of the ravages of the disease — for all the deaths which occurred from 'unnecessary exposure,' to which people were emboldened by the teachings of the non-contagionists.

After a few introductory remarks on 'contagion' and 'infection,' in the course of which he remarks, that 'in the present state of our knowledge, there is no other mode, than that of human intercourse, by which the progress of any disease can be accounted for,' he proceeds to state the hypotheses of the non-contagionists, 'under the three general heads of *progressive atmospheric influence*, *local atmospheric influence*, *and terrestrial emanations*.' He discusses all three in twelve pages of open printing and ample margins, and concludes that he has therein 'established, by negative proof, that Cholera is contagious.' The 'positive proofs' are treated under '*general facts*,' and '*particular facts*.' The chapter on the first class of observations, for we cannot agree with the author in calling them all *facts*, is ingenious and scholastic; but is hardly the thing for a book, which its preface declares is 'written with the design of placing before the public an impartial view of the facts and reasonings on *both sides* of the question.'

The chapter of *particular facts*, which should have been prepared with the utmost regard to authenticity, is more loose in its statements than the others, consisting, in a great measure, of scraps from the newspapers of the day, which are cited as scientific data respecting the origin and propagation of the disease in different places. Among them is the original story of the introduction of cholera into Canada by the passengers of the brig Carricks — although it was ascertained by accurate investigation, that decided cases of the disease existed there before her arrival.

Among this enumeration of facts, however, we do *not* find a notice of the first appearance of the disease in Boston, an account of which was published under official sanction, after having been officially and very thoroughly investigated. This, to be sure, could not be adduced as a fact to prove contagion; but in an attempt to get at the truth of the subject, it should be considered an important item.

In the remaining sections our author considers the objections of non-contagionists, the evils of their doctrine, the prevention of the disease, and its cure.

Upon the whole, although the book is interesting, and in many parts specious, to a discriminating reader, it can be considered *only* an 'Essay' to prove the contagiousness of Cholera.

ART. VII. — ADVICE TO YOUNG MOTHERS.

BY A GRANDMOTHER.

THIS is the first book of Domestic Medicine we have ever read with any sort of patience, to say nothing of improvement; and perhaps we hold it even in higher estimation than it really deserves, from the fact of its being so distinguished an exception to the mischievous class of books of kindred titles — a species of literary nuisance, which infest families, and although sometimes appearing under the sanction of a name which is disgraced by such an association, are generally far more pernicious than the most licentious or blasphemous volume which was ever suppressed by the application of wholesome laws.

But the volume before us is evidently the work of an intelligent, honest, and benevolent mind, stored with the fruits of much observation on the subjects it treats, and sufficiently practised and refined to present this valuable knowledge to others in a very intelligible and interesting manner.

We think it would have been much improved by a little more particularity in directions for the preparation of gruels, poultices, &c,—for physicians sometimes find their patients served with most uncouth affairs of this kind, even in families where there is no want of means.

The author might also have omitted, with advantage, some diseases she has attempted to advise about, and curtailed somewhat her pharmacopia. Small-pox and croup are too grave affections to have a place in the superficial views of a popular treatise, and should be left to volumes of professional study.

But notwithstanding a few such faults or imperfections may fairly be noticed, we take pleasure in recommending the 'Advice to Young Mothers,' especially to all unprofessional readers who seek for rational counsel touching the health or sickness of themselves or families, while we would assure our medical brethren that it contains some hints and recommendations which may be valuable, even to the most experienced practitioner.

The following extract is from the preface:

'The excessive ignorance of the generality of mankind respecting every thing which relates to medicine, is productive of many bad consequences; one of which (and not the least) is the power it bestows on a tribe of ignorant pretenders, who infest the earth, to the great detriment of the sick; for few persons know how to distinguish between them and those men who, dedicating their time and talents to the researches of science, are enabled to relieve the infirmities of human nature. To choose a physician well, one should be half a physician one's-self: but as this is not the case with many, the best plan which the mother of a family can adopt is to select a man whose education has been suitable to his profession; whose habits of life are such as prove that he continues to acquire both practical and theoretical knowledge; who is neither a bigot in old opinions, nor an enthusiast in new. A little attention in making the necessary inquiries, will suffice to ascertain the requisites here specified; to which should be added (what is usually found in medical men of real merit,) those qualities which may serve to render him an agreeable companion: for the family physician should always be the family friend.'

We have to acknowledge the receipt of Dr Beaumont's book on the Gastric Juice, and Dr Morton's Illustrations of Pulmonary Consumption, both of which we have read with great pleasure, and consider them sterling additions to our medical literature; but must defer the more extended notice which they deserve till a future number.

COLLECTANEA.

ON THE BRUITS OF THE ARTERIES AND HEART.

M. BOUILLAUD, in the 144th Number of his Journal, has communicated the results of his extensive clinical practice on the above interesting subject, and we doubt not that our readers will be gratified with a condensed view of this able author's researches.

He states that, if we attentively apply the ear over one of the main arteries, as the carotid or femoral, we may perceive a slight dull sound, not unlike to that caused by rubbing one finger rather briskly against another, as in giving a fillip. It is easy to make the sound we hear more distinct, only by pressing the end of the stethoscope a little more firmly upon the part; and now the sound is quite analogous to the bruit de soufflet, heard over the heart when any of its orifices are contracted, or in the hypogastrium, at a certain period of gestation, when the uterus and its contents exercise a compression upon the great arterial trunks in the pelvis. We deem this a much more probable explanation of this latter sound than that given by its discoverer, M. Kergaradec, who attributed it to the passage of the blood into the vessels of the placenta, and hence denominated it the 'souffle placentaire.'

As to the cause of the arterial bruit, we think there can be only one opinion, viz. that it proceeds from the rapid friction and shock of the blood upon the surface of the arterial tube; the term, therefore, 'bruit de frottement,' which we (M. B.) proposed several years ago, would be much more appropriate than the one in use. If, with a syringe, we inject by repeated strokes water into the arteries, and the stethoscope be at the same time applied over a large trunk, we shall hear at each injection, this 'bruit de frottement.'

This experiment has been repeatedly performed in the hospital before the students, and they have always easily recognized the sound. M. Pelletan, the professor of medical physics to the Faculty in Paris, states, as the result of his experiments, that when a fluid moves along with a certain velocity in a tube, whose inner surface is quite smooth, no sound or murmur can be heard; (M. Bouillaud does not quite agree with him here); but that it is immediately appreciable, if the surface presents any roughnesses or inequalities; and, moreover, that a certain degree of vibratory motion is then felt in the tube; the motion also being much more considerable, if there be any obstacle to the free stream within. It is now very generally admitted by the profession, that the theory proposed by Laennec to explain the bruit de soufflet is quite erroneous.

This illustrious author, prefacing his description by the remark, that it must depend upon either a 'particular vital condition, a sort of spasm or tension of the artery, or on a particular state of the blood, or on the manner in which it is moved along,' at length gives the preference to the first of these hypotheses, and attempts to confirm and illustrate it, by telling us that the bruit of the arteries, and that of muscles in action, are identically the same; he utterly puts out of consideration the agency of any mechanical obstacle from organic disease, either in the heart or arteries In conformity with this doctrine, M. Laennec states that the only deviation from health which, without almost any exception, is co-existent with the bruit de soufflet of the heart and large arteries, is a greater or less intense nervous agitation, and that the degree of this is always proportionate to the extent of the bruit. He says—

'Lorsque le bruit de soufflet existe à la fois dans l'aorte, dans les carotides, et dans les troncs arteriels des membres, le malade est dans un etat d'angoisse et d'anxiété extremes. Si le cœur, et la plupart des arteres, presentent le meme phenomene, la vie est en peril; mais, cependant, il est bien rare que le malade succombe, quand il n'y a pas en meme temps affection organique du cœur.' Without denying that certain constitutions of body seem to favor the development of this bruit, and that it is by no means unfrequent in irritable, nervous, hysterical and cachectic patients, even when there is no distinct disease of the heart and arteries, we cannot for one moment entertain the unmeaning idea, that it depends upon 'a particular vital state, or a sort of spasm,' of the circulatory apparatus. What! is it necessary to plunge into the mysteries of vitalism, to explain the occurrences of the blowing, sawing, and rasping sounds which accompany any contraction of the cardiac orifices? As for us, we still adhere to the opinions which we published in 1823, that the blood, in being propelled through any contracted orifice (the forcing pump remaining of the healthy dimensions), experiences an unusual friction; and this friction produces the bruit, and also that peculiar vibratory motion which Laennec called 'fremissement cataire.' Still we admit that the bruit de soufflet may, and very often does, exist in the præcordial region, without any co-existent contraction of the heart's orifices; but in this case, be it remembered, the sound is only occasional—it is never constant. Of late years, I have had very frequent opportunities of observing the bruit in arteries, while it could not be heard in the heart itself; and it is of much importance to distinguish between these two sets of cases.

It must seem strange to hospital physicians to be told, that in a space of four years Laennec had met with only three or four examples of induration of the valves of the heart, in patients who during life had presented the bruit de soufflet and the fremissement cataire. Within the last nine years I may safely aver that not fewer than thirty cases have occurred in my practice, and the correctness of the diagnosis has been uniformly confirmed by the post-mortem examinations. Indeed, no organic disease of the heart may be so easily distinguished as contraction of the orifices; and we need not repeat that the bruit heard in such cases is a physical, much rather than a vital effect, or, as Laennec says, 'an anomaly of nervous influx.' Before we quit the consideration of this great author's opinions, we must add, that it has never occurred to us, as it has to him and some other observers, to discover, upon dissection, a 'notable' contraction of one or more orifices of the heart, when no 'bruit de soufflet ou de rape' had been heard during life.

M. Bouillaud then proceeds to criticise the opinions of Dr Corrigan on the supposed new disease, which he thought that he had discovered, viz. 'permanent patency of the aortic orifice from disease of the semi-lunar valves,' and most powerfully shows their insufficiency and errors. We have not time to transfer the criticism to our pages, but would strongly advise Dr Corrigan to peruse it attentively. Upon this part of the subject M. Bouillaud again reminds his readers, that in all the experiments which he has performed on fluids moving along dead, as well as along living tubes, he has uniformly found that by merely compressing a part, so as to diminish the calibre of the vessel there, a bruit, altogether similar to the bruit de soufflet, may be produced. That such a pressure or constriction is not, however, the only and invariable cause of this bruit, is amply certified by its very frequent occurrence in nervous, chlorotic females, who are subject to hysterical affections. Of late years a number of young women have been sent by different practitioners to the hospital, for supposed organic disease of the heart. They were subject to violent palpitations of the heart, shortness of breath, and strong and very forcible pulsation of the carotids.

The precordial region did not present dulness on percussion over a greater extent than usual; there was no auscultatory sign of any organic lesion; no blowing, sawing, or rasping noise; and yet these patients could not take the gentlest exercise without suffering from dreadful palpitations and dyspnœa.

In all these patients a peculiar sound of a remarkable intensity was audible over the carotid arteries; in some cases these arteries not only blew and hissed, but cooed, and even gave out a musical whistle, as Laennec has observed. Between this whistling note and the common bruit de soufflet there are numerous degrees or shades of sound; a very curious one is that which Bouillaud compares to the sound of the little instrument, called by the French, 'le diable,' when struck. In a young chlorotic female it was so remarkable, that, by regulating the degree of pressure upon the artery, a sort of gamut of tones, from the lowest, which was a blowing, to the highest, which was a rumbling or snoring sound, was produced; just like the succession or wave of tones on the little instrument we have alluded to. When the arterial bruit arrives at such a degree as in the above case, it is not intermittent or occasional, but is continued; being stronger however during the diastole of the vessel, and acquiring therefore a leaping or 'saccade' character. Its most common seat is in the carotid and subclavian arteries, especially the former; it is heard loudest over the sternal extremity of the clavicle. In the majority of cases this 'bruit' or 'ronflement de diable' is audible only on one side; sometimes it might be heard on both, but less distinctly on one than on the other; hitherto M. B. has met with it, much more frequently upon the left than upon the right side. In some cases it ceases for a time and then returns. If the stethoscope be pressed firmly upon the artery, without however interrupting the circulation, the sound becomes louder, and even of a disagreeably grumbling tone—in other cases the sound is very sensibly diminished. The position of the head affects it not a little; in general it is increased if the head be inclined to the opposite side, and the chin be elevated at the same time. What is very interesting and important to remark is, that the sound is much weakened, or it ceases altogether, if the larynx be drawn aside from the artery in question.

If the patient make any effort while we are listening to this bruit de diable, it instantly ceases; just as the sound of a vibrating cord is suddenly arrested, by nipping it tightly. The bruit is interrupted also by any compression of the artery nearer to the heart than the point of the applied stethoscope.

By far the greater number of the patients in whom we heard this sound were young, delicate, and chlorotic females; the nutritive and assimilative functions were imperfectly performed, even although the individuals might be fat and apparently stout: there might be an excess of fat; but there was certainly a want of good florid blood. The musical sound occurred, generally, in lean, emaciated subjects. In all the cases no analogous sound was appreciable in the precordial region: perhaps, however, the sound of the heart's pulsations was more clear than usual.

The treatment of the patients consisted in the exhibition of quinine and of the preparations of iron; the constitutional health was thereby much improved, but the bruit did not altogether cease, except in one case. It is not easy to account for this curious symptom; and perhaps, before attempting any explanation, it will be wiser to examine it under a variety of aspects; to ascertain among other things, whether it is confined to the carotid and subclavian arteries, or whether it may sometimes be heard in other large trunks. If the former case be true, then it will be necessary to bear in mind the influence of the adjoining windpipe, even although the sound may, as above stated, sometimes exist in one of the carotids only, and be quite wanting in the other.

We should suppose that the state of the arterial tunics is somehow connected with the production of this musical sound; and as there is an exaltation of it at each diastole of the tube, we are led to infer that the heart at each stroke gives a sort of 'coup de fouet' to the vessel, through the medium of its contained fluid. It is important to know that an attentive auscultator cannot possibly confound this 'arterial ronflement,' or murmur, with the blowing or sawing sounds heard in the precordial region, when any of the orifices of the heart are contracted;— if once distinctly heard, it cannot be mistaken for any other. The musical murmur may be still more easily discriminated. As to the simple and intermittent bruit de soufflet of the arteries, it may exist quite independently of any analogous sound of the heart. In conclusion, says M. Bouillaud, the increase of the friction (which in my opinion is the true cause of the bruit de soufflet, properly so called) may arise from three sources, viz. — 1. Any exaltation of the motive power of the heart;— thus we know that the sound is audible in many cases of hypertrophy, and of violent palpitations, even although none of the orifices be at all contracted; 2. A contraction of any point of the canal, through which the blood has to pass; and 3. A jagged, irregular, or in any way roughened state of the surface, along which the column of blood flows. We may add that the density of the moving mass of fluid ought probably to be taken into account; but upon this subject, our ignorance forbids us to say more.

Perhaps some of my brethren may be inclined to adopt the opinions lately so ingeniously proposed and defended by M. Rouanet, as to the cause of the two sounds of the heart, which he attributes to the closing or flapping together of the divisions of the auriculoventricular and of the semilunar valves. If they do, they will find no difficulty, upon his theory, of applying all the preceding observations to the correct investigation of the abnormal, cardiac, and arterial sounds. — *Journal Hebdom.*

BELLOWS SOUND OF THE HEART AND ARTERIES.

The Editor of the Medico-Chirurgical Review in commenting on the following paragraph, wonders who the 'most distinguished of the profession ' are, and assures his readers that Dr Gregory is not one of them. We are informed, says he, that the Dr now carries with him, in his carriage, a couple of Stethoscopes (or as his footman calls them, Telescopes) for reconnoitering diseases at a distance, and by way of *amende honorable*, for the indignities formerly offered to the '*inutile lignum.*'

' Almost all very severe and extensive forms of derangement of the nervous power, will affect the arteries occasionally, in a very peculiar way, which is explained in another place. This is the bellows sound. I know not who it was that first described this spasmodic affection of the arterial tubes, for spasmodic it certainly is, but Laennec has sufficiently well described it, in his book on the Diseases of the Chest. But yet, even in the metropolis of the world, *this sound was not, a year ago, at all known, or at least, certainly, not generally understood, by the most distinguished of the profession.* Two of the most celebrated, admitted that they knew nothing of sounds or signs of disease or disordered actions. Some others of my esteemed friends *never heard the name of bellows sound as indicative of disordered arterial action* ; and did me the honor of saying I was nervous ; I had no sound in my body : but it might be in my imagination. But it certainly was in my body, and I am sorry to say, it is there still. It was admitted that they heard something ; " borborygmus," " bruisement," were the words uttered, and respectfully listened to, to explain their meaning. ' The bellows sound is curiously evanescent, like an ignis fatuus ; or rather, its floating melody pervading the body, often reminds me of the far distant, though more charming music, heard in the woods at midnight, near the Chateau Le Blanc, so beautifully described by Anne Radcliffe : which could be distinguished in the pauses of the storm, or in a calm night, and sometimes was so wayward and capricious, as to make it doubtful whether it was heard or not.' "

' The sound will then issue from the body loud and distinct, clothed by novelty, and a certain degree of awe, to those who are conscious that it is an affection of those vessels which circulate blood and life. But it is not an agitated mind only that can call forth these sounds ; the body suddenly agitated, will produce the same effect, though certainly in an inferior degree ; for the noises under such circumstances, will be more feeble, and require the quietude and stillness of morning in bed, to be distinctly heard. A sudden turn in the bed, in persons who are accustomed to the affection, will yield the bellows sound, and be sure to awaken its awful and varied notes ; but they will soon cease if the trunk of the body is permitted to remain at rest.'

' Holding the breath, as it is called, will bring out this sound, in one case, as far as can be judged, first from the arch of the aorta, whence it will proceed, with an inconceivable rapidity, to both subclavians, and often descends into the abdominal aorta, so that the chest and abdomen appear to be occupied by a band or barrel of musical pipes. The pipes do not indeed play exactly, "Oh, dear, what can the matter be," but they have a certain musical melody, apart from the awful consideration of their cause, resembling chimes; but more especially do they often most exactly resemble the Æolian harp, with all its gentle cadences and intonations.' — ***Fletcher on Mental Derangement.***

INFIRMITIES OF GENIUS — BYRON.

It is not our intention to dip far into the *infirmities* of this genius. Byron soared too high for our optics to follow his ætherial flights about the summits of Olympus. If Cowper was religiously mad, Byron was irreligiously so: — if the former was a fanatic, the latter was a sceptic, if not something worse. Cowper was always repenting of sins that he had never committed — Byron had probably little regret, except at the inability of indulging in what Cowper would have considered unpardonable sins.

We have no doubt that Byron's eccentricities, and his real or feigned misanthropy, depended much on some corporeal disorder, though that elucidation seems never to have entered the minds of his biographers.

'His symptoms have indeed been noticed under various names, when productive of any extraordinary and palpable effect, but they have been so indefinitely described, that nothing but medical investigation is competent to a solution of the difficulties they present. In one place we read of his being subject to an hysterical affection, in another of his being carried out of a theatre in a convulsive swoon; elsewhere of an apoplectic tendency, attended with a temporary deprivation of sense and motion; at another time, of nervous twitches of the features and the limbs, following any emotion of anger, and from trivial excitement, and slight indisposition, of temporary aberrations of intellect, and delirium; but no where do we find the cause of these phenomena plainly and eligibly pointed out, nor the real name given to his disorder, till his last and fatal attack. The simple fact is, he labored under an epileptic diathesis, and on several occasions of mental emotion, even in his early years, he had slight attacks of this disease. If feelings of delicacy induced his biographers to conceal a truth they were aware of, or deemed it better to withhold, their motive was unquestionably a good one; but it was nevertheless a mistaken delicacy; for there are no infirmities so humiliating to humanity as those irregularities of conduct in eminent individuals; and the only palliation they admit of is often precluded by our ignorance of the bodily disorders under which they may have labored.'

This epileptic diathesis was probably hereditary, and derived from his ill-tempered mother. He had not regular recurrences of the complaint; which, like masked gout, only produced slight seizures, and a host of anomalous phenomena, when the mind was excited, or the body weakened by excesses. 'In boyhood, the most trivial accident was capable of producing sudden deprivation of sense and motion.' Two months before his death, he had a regular and severe convulsion, in the presence of Captain Parry, and in Colonel Stanhope's room. With such a morbid diathesis, a devotion to literature, and especially to poetry, would be very apt to produce that melancholy, morbid sensibility, and sarcastic temper, so conspicuous in Byron. For such a man society had few charms. He made a merit of his aversion from social intercourse, and prided himself on being independent of the frivolous amusements of the world. His self-concentration led him to think his own mind all-sufficient for his individual felicity — and a refined selfishness became the most prominent feature of his isolated feelings.

'The question of Byron's hypochondria no one can dispute, who has perused his journals. Its various Protean forms are there set forth in language which affectation could not forge, nor fiction mimic. "What can be the reason," he says in his journal, "I awake every morning in actual despair and despondency? In England, five years ago, I had the same kind of hypochondria, but accompanied with so violent a thirst, that I have drank as many as fifteen bottles of soda-water in a night, after going to bed." This unaccountable dejection without a cause, this constant waking in low spirits, he frequently alludes to, and expresses an apprehension of insanity; in his own words, of "dying like Swift, at the top first." '

There is as little doubt that Byron's disorder was greatly aggravated by errors of diet, and inattention to proper regimen. On this last subject, indeed, he entertained the most ridiculous notions. He believed the rigid abstemiousness of an anchorite to be compatible with the most profuse expenditure of nervous energy — and that the exhaustion of the mind was only to be balanced by exertion of the body. He sallied, however, from one extreme to the other — fasting whole days, or living on bread and cheese — and then drinking 'five fathoms deep,' and plunging into excesses of various kinds, without limit. Latterly, indeed, when harrassed by an irregular intermittent or remittent fever, Lord Byron appears to have acted with more than usual imprudence. He took a cold sea-bath in January, and in the night, and continued in the water for a considerable time. After this he was soon seized with rheumatic fever. It appears, too, that he was in the habit of taking opium, by which the tone of his stomach was injured. He was, in fact, a martyr to indigestion. In his last illness, to slow and irregular remittent — perhaps rheumatic fever, was added, if the history and dissection be fairly detailed, inflammation of the brain. We believe he was injudiciously treated — but we do not agree with Mr Madden, that his death was occasioned by abstinence and bleeding. Few, indeed, die of such a cause ; but thousands fall victims, annually, to want of depletion and too much sustenance. In Lord Byron's case, the depletion was too late — and consequently was useless, perhaps injurious. The medical treatment, in other respects, was vacillating and inert. He had no confidence in his medical attendants, and they, of course, had no influence or control over his conduct. Be this as it may, the life of the celebrated Bard was embittered by corporeal ailments, and there is no doubt that his temper was soured by the same. The tenor of his writings was tinctured by the state of his health ; and had the poet been free from corporeal and mental irritation, the probability is, that his writings would have assumed an entirely different complexion, breathing sentiments of philanthropy and piety, instead of misanthropy and infidelity. — *Dr Madden.*

RHEUMATISMAL AFFECTION, SIMULATING A LUXATION OF CERVICAL VERTEBRÆ.

A child, 15 years of age, was brought to our morning consultation on the 30th of last January, by several surgeons, who believed him to be affected with a luxation of the first cervical vertebræ from the second. The history of the case was as follows. The boy, in endeavoring to take off his shirt ten days ago, made a violent movement, and at the same time experienced a severe pain in the cervical region, and heard a manifest cracking in the part. His head inclined to the left side, remained in that position, and could not execute any movement. The surgeons who were called in pronounced a dislocation of the first upon the second cervical vertebræ ; but as the case seemed obscure and dangerous, they advised the parents to bring him to the Hotel Dieu. Upon examination, I found the head strongly inclined to the left, and the spinous processes of the superior vertebræ prominent ; the neck was rounded off on the opposite side. He experienced severe pain, which was increased on any attempt to redress the position of the head ; he also complained of a numbness and lancinating pain in the left arm and shoulder ; deglutition was difficult, and he could neither bend nor turn the head, which remained inflexible on the trunk.

A great number of surgeons and most of the pupils were of opinion that dislocation had taken place ; but I was induced to differ from them, and to incline to the belief that the disease consisted in a rheumatismal affection of these parts, not in a displacement of the bones; however, as the reasons in favor of a luxation are not few, I think it right to explain to you why I adopted an opposite opinion. I have often seen, in individuals affected with rheumatism, a severe pain of the neck come on after some effort, and the morbific principle, hitherto erratic, fix itself in this part of the body. Thus some individuals, while dressing, are suddenly seized with a severe pain in the calf of the leg, which certainly does not depend on the rupture of the tendon of the plantaris, and which absolutely prevents them from walking for two or three days. These pains occasionally cease, and pass off to some other part of the body. Other people again, in getting into a coach, will experience a sudden pain in the loins and lumbar mass of muscles, — pain so very severe, that they immediately go home in a state of alarm, as if they had received a violent stroke of a stick or a thrust of a sword.

The reason why I am inclined to admit the existence of a similar cause in this case is, because he is a wine merchant's boy, obliged to descend every day into the cellar, where he remains for a long time, and, moreover, because he has had before several rheumatismal pains. We in consequence ordered him to be cupped on the left side of the neck. The next morning the improvement in the patient was really astonishing, and a person who had not seen him the day before, would not have believed that he could have presented the symptoms we have described. Although the neck was a little stretched, and slightly deviated to the left, the patient could flex and extend the limb, bend it laterally, or twist it on the neck. It is essential for you to remark, that no attempt had been made at reduction, and yet the numbness of the right arm was gone. We immediately applied warm poultices and other emollients to the neck, and fifteen days after the accident you saw this youth freed from every trace of the affection. — ***Dupuytren's Lectures.***

PATHOLOGY OF DRY GANGRENE— BY DUPUYTREN.

A man, aged 71, was admitted last March into the Hotel Dieu. For several days he had suffered from pain and a sense of coldness in the left great toe; it was swollen and rather livid; the pain got worse; a phlyctæna formed and broke, and discharged a brown-colored fluid; and the subjacent parts were found to be mortified; the eschar extended to the meta-tarso-phalangeal articulation; it was hard and dry; the pain was now so severe as to prevent all sleep, and to induce feverish symptoms. The heart and great central vessels were ascertained to be healthy;

the crural artery of the affected side at the groin felt hard, and was no doubt ossified.

The patient had no idea whence his disease arose; he had received no bruise; and his health had been previously very good.

Dupuytren being satisfied that this was a case of the senile gangrene induced by an obstruction, partial or total, of the arteries, in consequence of an inflammation of their inner coat, and a consequent deposition of coagula in their tubes, ordered a large venæsection; and emollient cataplasms at the same time to the toe. The patient experienced immediate relief, and slept comfortably that night.

A mild antiphlogistic treatment was continued, and in the course of a few weeks the eschar was thrown off, and the ulcer, although deep, showed a beginning granulation. At the date of the report, everything was going on well.

Observations. Medical men have hitherto pinned their faith too undoubtingly to the doctrines of Mr Pott on the subject of the gangrena senilis;—indeed the very appellation is erroneous. Dupuytren has seen the disease in a girl of ten years of age, and in this case it extended up one half of the leg.

This eminent surgeon, after much patient observation, is now convinced that the gangrene is the result of a previous arteritis of the principal vessels of the affected part. Although it most generally commences at the very extremities of the fingers and toes, he has seen it appear, first of all, in some other part of the foot or leg, as about the malleoli; and authors have described similar appearances on the trunk, on the nose, ears, &c. The upper extremities are not unfrequently affected, and Dr Paillard mentions a case, in which the hand and lower half of the forearm had become shrivelled and dry, as we see in a mummy. The early symptoms are a feeling of stiffness, cold, weight, and heaviness in the part; then of tickling and pain, which is sometimes very lancinating and severe; the part becomes swelled and puffy, and of a purplish hue; at other times it is pale and shrivelled. One or more phlyctæna form, and when these break, the subjacent parts are found to be gangrenous, and, as it were, mummified. If the strength of the patient holds up, the disease gradually mounts higher and higher up the limb, and each step of advance is denoted by a repetition of the symptoms just now mentioned. As is well known, by far the greater number of cases occur in old subjects; and hence probably the cause of ascribing the disease to ossification of the arteries; but this is now known to be, as Hodgson justly observes, only a coincidence; in truth, mere ossification of the blood-vessels does not very materially affect the circulation; and every anatomist is aware how frequent such a change of the arterial tissue is in old people, without being accompanied by any traces of gangrene of the parts. The fact, too, of the disease occurring sometimes, although rarely, in young persons, corroborates this opinion.

The real and essential cause is an obstruction to the circulation; and this obstruction is produced by the vessels being clogged up with coagulated blood in consequence of the previous inflammation of their serous coat. Morbid anatomy has shown the truth of these positions most satisfactorily. On examining the vessels, we find that the arteries are filled with coagula, which adhere closely to the tubes by means of coagulable lymph, which has been poured out, as happens so frequently with all serous membranes. These phenomena may, it is true, take place in ossified as well as in healthy and normal vessels, and not in one set only to the exclusion of the other. Cruveilhier has shown that we may induce arteritis by injecting acrid substances into the vessels, and that mortification of the parts is a frequent result, in consequence of the circulation being interrupted;—by keeping this in mind, we can readily explain how the dead parts should become dry, withered and mummified, and not putrid and boggy, after an excessive inflammation. How satisfactorily also can we now understand the occasional exciting causes of this malady; viz. excesses in wine and spirits, rich living, certain poisons, especially the ergot of some grains; the blood becomes infected, and stimulates the arteries to inflammation. M. Roche has written an admirable paper supporting these views in the Dict de Med. et Chirurg Pratiq. t. vii. art. Ergotisme.

Andral adds his influential testimony to the same effect. Consult his Precis d'Anatomie Pathology, t. ii. p. 373. Delpech, in a paper published in the Revue Medicale for July, 1831, admits that this sort of gangrene is the consequence of an obliterating inflammation of the capillary vessels.

Treatment. Every one is acquainted with Pott's curative means, bark and opium: the former is not only inefficacious, but is absolutely hurtful in most cases, and our experience confirms this condemnation.

An old woman, upwards of 60 years of age, was taken into the Hotel Dieu, many years ago, and treated on Pott's plan;—the disease gradually extended itself. Dupuytren then ordered bleeding and other antiphlogistic means; and speedily the mischief was arrested. Since that time a great number of cases have been similarly treated with most gratifying success. Opium is an admirable adjuvant, but it cannot be trusted to alone.—*Trans. Medicales.*

ABSENCE OF SEVERE ACCIDENTS AFTER OPERATIONS FOR ANEURYSM.

To what are we to attribute the absence of any severe accident after the operation for aneurysm ? Without doubt to the care which the surgeon has to isolate from the artery, such nerves or other important parts as are in its neighborhood. More than twenty patients afflicted with aneurysms of the carotid, subclavian, brachial, iliac, &c, arteries, have been operated on at the Hôtel Dieu, and only one has been attacked with gangrene. Compression or ligature of the nerves is the most frequent cause of this latter accident. Dr ORPEN reports a case of aneurysm of the subclavian, in which the tumor, after having increased rapidly, and presented violent pulsations, suddenly ceased to pulsate, and began to contract, until its size was reduced to that of a nut; the pulsation in the arteries of the limb became imperceptible, and the arm began to waste excessively. Dr ORPEN thought, with reason, that the diminished nutrition of the limb and its loss of motion depended upon pressure exercised by the tumor on the cervical nerves, and not on the absence of a sufficient quantity of blood, arising from the obliteration of the artery. The case of Chevalier confirms the fact established by the beautiful dissections of Scarpa, viz. that those parts of the arterial system which are close to the trunk, communicate as freely with each other as those which are at a distance from the centre of circulation. Nature herself, so fruitful in resources, had long ago proved that the great arterial trunks may be obliterated without destruction or injury to life in the limbs. In the notes which M. Breschet has added to his translation of Hodgson, you will find a case in which the left subclavian and several other important vessels were obliterated by the pressure of anuerysm of the aorta. A small aneurysmal tumor was situated on the origin of the subclavian, the cavity of which vessel was completely filled by a compact ligamentous substance extending into the vertebral, internal mammary, and superior intercostal arteries. The inferior thyroid was the first branch which remained pervious, and by it the blood passed through the superior thyroid into the subclavian. The limb appeared to have been well nourished, and had enjoyed its usual strength, in spite of the obliteration of the chief artery at its origin. The case of Chevalier shows us at once the power of art and the resources of nature ; an aneurysmal tumor exists in the axilla, a ligature is placed round the subclavian artery, the course of the blood is suspended, but the patient is cured. A part of the tumor still remains ; what does nature do to rid herself of this ? She excites an inflammation which terminates in the suppuration and spontaneous opening of the sac, and finally procures for the patient a perfect cure. At first sight we might have been tempted to fear that this opening would give rise to hemorrhage, but the successive diminution was enough to dissipate all inquietude. —*Dupuytren's Lecture.*

LITHOTRIPSY.

Case 1. The Dean of *** having for some time experienced pain in making water, and observed that the stream occasionally stopped suddenly during its emission, consulted Mr A. White, who sounded and had an indistinct and momentary sensation of the presence of a stone in the bladder. This was confirmed by a second exploration, and Dr ***, anxious to be immediately relieved, addressed himself to me to undergo lithotripsy, at the suggestion and recommendation of Mr White.

The urethra was tolerably capacious, and in a healthy condition, the bladder large and contractile. There were several small moveable calculi situated in the *bas-fond.*

In a single application of the percuteur of two or three minutes duration, these calculi were pulverised, and voided during the three or four following days. No stone being felt or taken in the second application, the patient was pronounced cured. Mr A. White, and Mr White, the patient's medical attendant, sounded carefully, without detecting the smallest remnant of stone.

Case 2. Sir ***, M. P., ætat. 60, experienced considerable pain and uneasiness at the neck of the bladder, some years back, and voided several small calculi. He consulted Mr Brodie, who, having introduced a catheter, found the prostrate very much enlarged, and who, from the nature of the calculi which had been passed, was of opinion that they were prostatic and not renal. Although this examination afforded great relief, the symptoms continued, and were at times so violent that about two years after the first sounding, Sir *** begged Mr Brodie to repeat the exploration, the result of which was the discovery of a stone in the bladder. Mr Brodie recommended the patient to address himself to me, in order to have it removed by lithotripsy. The urine at this time was very catarrhal, and was voided frequently.

A methodical chatheterism disclosed to me a middling-sized urethra, moderately sensitive, but made to deviate from its natural direction, by an inguinal hernia. The bladder was irregular, extremely irritable, and in a soft fungous condition ; it contained several calculi, of from about 9 to 11 lines in diameter, which were moveable. The prostate was enormously enlarged, and very irritable ; the catheter detected it protruding a considerable distance into the interior of the bladder.

In five applications of the *percuteur* of two or three minutes duration, which were attended with circumstances too long to detail here, these calculi were removed. The prostate was greatly diminished in size, and the urine was changed from alkaline and muco-purulent to acid and clear. Mr Brodie sounded most carefully, and confirmed the cure. From this time Sir *** has been free from inconvenience. Mr Brodie followed all the steps of the operation, and with the more interest and care on account of the great difficulties of the case.

Case 3. In one of my last journeys into Derbyshire, Mr Robottom, a farmer, sixtyeight years of age, tall, and of rather a weak constitution, was presented to me by the surgeons of the Derby hospital. Symptoms of stone had existed for about two years, but had become much more violent during the last two or three months.

The urethra was rather capacious, and moderately sensitive. The bladder large at the *bas-fond,* but presenting, near the neck, a considerable depression, in which were a number of hard, smooth, moveable caculi, of about six or eight lines diameter.

In the first application of the percuteur, three of them were pulverised in about three minutes, and the patient almost immediately voided two nuclei nearly entire. In the second application, the remainder of the calculi were crushed; three other nuclei were passed after this operation, with the detritus, and the patient feeling relieved from every unpleasant symptom, was dismissed after having been carefully sounded. These operations were performed publicly at the hospital, before a numerous assembly of medical gentlemen.

Case 4. Mr G****, a farming gentleman, fiftyfour years of age, residing near Newcastle, after having suffered for about two years from stone in the bladder, heard that one of his neighbors, Mr F****, had been cured of the same complaint by the crushing system, and had been well ever since. He came, without delay, to London, in order that I should also perform the operation upon him.

For about a year Mr G**** has been unable either to walk or ride for any length of time without great pain, and frequently has a discharge of blood with the urine. There was a mucous and sometimes a muco-purulent, deposit in the water.

The urethra was rather small, the bladder regular in its conformation, but contractile and sensitive. There were several smooth, hard, moveable stones near the neck, about the size of small walnuts.

In the four applications of the *percuteur,* of only two minutes duration, on account of the extreme sensibility of the patient, these stones were pulverised and evacuated. The detritus weighed nearly an ounce. I operated upon Mr G**** in the presence of Mr M'Intyre, surgeon of Newcastle, Mr Johnson, a relation of the patient, and Mr Biggs.— *Lancet.*

STATE OF MEDICINE IN TURKEY.

Physicians in Turkey. The means of making a good physician vary in different countries. In Turkey they are formed as law-givers are with us, hereditarily. In America and France and elsewhere, a prescribed course of medical study, followed by prescribed examinations, constitute the doctor. In England the neophyte swears to the thirtynine articles, and ruins his health and his morals on the banks of a lethargic stream, where no medicine is taught — and he too becomes a doctor. Thus we see that customs differ. But our present business is with the hereditary physicians of Turkey.

We think that the Hohenlohës, Irvings, and St John Longs, have something yet to learn. They have not made their patients swallow their prescriptions. The chalk-mixture is an excellent idea, and must not be confined to Mussulmen. The unction with which devils are cast out being regulated by the quantum of the pay, is not without parallel in Europe. They who smile at the fanatic Turk, beguiled by amulets and snatches from the Koran, look complacently enough at the Christian fools, Lords, Baronets, and Countesses, who depose that quicksilver is extracted from their heads, gout from their feet, and water from their brains, at the bidding of a wretched painter. Nay, what is the religious charm held sacred by a people whose existence is the mere consequence of religious fanaticism; what is this, we say, when compared with the mummery of a magnetising needle amidst the most civilized people of the world? And who are they that will sneer at the Mahometan duped by the faith of his fathers, and read without a shrug a medical periodical gravely descanting on the effects of a magnet. Well has Lord Bacon remarked that, 'in all times, in the opinion of the multitude, witches and old women, and impostors have had a competition with physicians,' * and well did the ancient theogonists feign that Æsculapius and Circe were both children of the sun, that sun which Hamlet says breeds maggots.

The Turks, humbugged as they are, yet possess the sense, which some Europeans seem to want, of appreciating the effects of education and study. Accordingly a foreign physician, particularly a Frank, is highly valued, and greatly followed.

In Turkey everything is learnt by the pulse, and by the pulse every thing is determined. In this country there have been 'Water Doctors,' who were paid, and who prognosticated, and prescribed by the chamber-pot. If Sterne be in the right when he declares that 'there are worse occupations in the world than feeling a lady's pulse,' the Ottomans have the advantage of us.

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* Essay on the Advancement of Learning.

With them a physician is made or marred by his dexterity in applying his fore-finger to the radial artery. The governor of Adrianople, Halisch Pascha, once visited the tent of the Russian General, Paulin, where Dr Oppenheim and two other physicians were attending a levee. Each of the three successively was presented to the Pascha, who made them feel his pulse ; and when the ceremony was over, he immediately declared, that one of them was incomparably a better physician than the others, for, said this wise Pascha, he felt my pulse much better ! With us, a pet doctor gets his reputation the Lord knows how ! Whether such things occur in Christendom as bribing ladies' maids, we cannot say, but the Greek physicians fee the servants to inform them of their masters' and mistresses' *motions*, and subsequently declare them to the astonished patient, on examination of the pulse.

The most effectual of the means employed either for the prevention or cure of diseases by the orientals, is the bath (*Hamam.*) The long continued frictions employed, the stretching, drawing, kneading of the limbs and flesh, the pulling and working of the joints, &c, all tend to exercise a healthful influence ; it is astonishing, what a command over the joints an experienced attendant at the baths possesses. He twists them in every direction, and you almost feel, as if he had performed on you a number of successive dislocations and reductions, following each other with surprising rapidity. In chronic diseases of the skin, gout and rheumatism, these baths are invaluable.

The baths are splendid in conception and construction, so cheap as to be accessible to the poorest Turk, and form for the ladies a good equivalent for morning concerts, or morning calls. We may refer the curious to the modest letters of Lady Mary Wortley Montague. — *Medico-Chirurgical Review.*

EMMENAGOGUES.

Dr Graves made some remarks on a former occasion on emmenagogues. He omitted to make mention of one remedy, and that a good one, a small blister applied to the inside of the thigh, near the pudendum, a day or two before the expected period. In a recent and very obstinate case this proved successful.

ADHESION OF THE PLACENTA.

When the usual means for promoting the expulsion of the placenta have failed, some practitioners have recommended the injection of cold water through the umbilical vein.

This may act in two ways ; either by stimulating the uterus, and thus exciting it to regular contractions, or by distending the

cellular tissue of the placenta, and with it the constricted portion (we are talking of cases of the hour-glass contraction) of the womb. Before resorting to this expedient, we should try the simpler one, of merely immersing the extremity of the cord into cold water; the impression of the cold is thus transmitted to the walls of the uterus, and may induce them to sudden and healthy contractions.
Archives Générales.

Exercise in Curvatures of the Spine.

It may probably be necessary to interpret these two Grecian words — somacetic, we presume, is derived from "σωμασκεω," corpus exerceo; and orthopody, from 'ορθπȣς,' recto pede progrediens. The meaning, therefore, is the employment of certain exercises, or gymnastics, in the treatment of curvatures, and other deformities of the spine, limbs, &c. M. Bricheteau in the name of the commission appointed to report upon a very excellent memoir of M. Pravaz, who has for several years devoted his attention to this subject, expressed their high approval of the different means which he suggested for the cure of these distressing maladies. Much contrariety of advice has been given by medical men on the question, whether the patient, in a case, say of spinal curvature, should be kept entirely quiet and motionless, or whether, on the other hand, some corporeal exercises may not be allowed. M. Pravaz thinks that this has arisen, in a great measure, from not distinguishing general from partial gymnastics. Each case may, and very generally does, demand a special treatment, and it is, therefore, impossible to lay down precise rules which are applicable to all; the great and paramount object is, to call into active use, and to strengthen, one set of muscles, and to render inactive, another set, which act in a direction contrary to the preceding. Whenever and howsoever we can effect this object, we may be assured that we are following a rational therapeutics. Supposing that the deviation is slight, and the symmetrical disposition of the organs of movement is but little affected, then it is advantageous that all the agents of locomotion be simultaneously but gently exercised; for in this way the body will be best fortified, and the incipient irregularity be most effectually obviated; but, when the deformity is greater, and there is well-marked lateral curvature of the spine, and, consequently, an inclination of the chest to one side, general exercise alone may aggravate rather than better the case; and the reason of this is very apparent; the muscles of the two sides do not act symmetrically and with equal force; on the convex side they are stretched, and on the concave they are relaxed. Some writers have recommended us to trust chiefly to mechanical contrivances, which relieve the weak part of the spinal column from the superincumbent weight — others, again, have decried these as worse than useless; but here, as upon most other occasions, the safety lies in the mean. The profession is much indebted to the late Mr Shaw, for his judicious and scientific suggestions, and M. Pravaz handsomely acknowledges his obligations to the English author. By following the same path of inquiry, he has succeeded in proving, most satisfactorily, that certain sorts of active exercise are admirably fitted to benefit many cases of deformity.

The indication to be kept in view, is to relieve the spine of the superincumbent weight, while the muscles of the limbs and body are permitted free movements — leaping, wrestling, fencing and so forth, are highly objectionable; instead of these, clambering along a floating cable, or drawing oneself along two cables, stretched parallel to each other, by hanging to them, and pushing the body on by the effort of the arms and legs, or mounting a rope-ladder backwards, and especially the amusement of swimming, are highly recommended. But as these exercises cannot be at all seasons pursued, M. Pravaz has contrived a very ingenious carriage, which is pushed up an inclined plane by the patient himself, who, lying on his face, and grasping two lateral stanchions, drags his body forwards, and thus impels the carriage at the same time; it then runs down the plane by its own weight. The muscles of the arms and shoulders are thus powerfully called into action. Another very useful exertion is that of the balançoire, or see-saw, recommended by M. Clerc, in his memoir on gymnastics; or that proposed by the author, wherein the patient, lying on an inclined plane, turns the handle of a heavy wheel. Boyer had previously suggested something like this. With regard to the balançoir, M. P. recommends that the patients should stand erect upon the ends, and steady themselves by laying hold of two cords from the roof; one of these cords, viz. that which corresponds to the depressed shoulder, should be a little shorter than the other, so that the effort of suspension of the body, at each descent of the beam, falls more upon the affected than upon the other side.

M. Pravaz, differing from many preceding authors, tells us that, in his experience, the catamenia are generally irregular and deficient in females who are kept long motionless in bed, or on the sofa. — *Medico-Chirurgical Review.*

TREATMENT OF GONORRHŒA, AT THE LOCK HOSPITAL, LONDON.

I will now take the liberty of mentioning the plan of treatment that I have found productive of the most beneficial results in the acute form of the disease. I think that, in the great majority of cases, the patient is benefited by the exhibition of a small quantity of mercury. There are two great indications in the treatment of gonorrhœa — first, to reduce the inflammation; secondly, to get rid of the discharge. If there is pain in making water, a few grains of mercury, combined with antimony, and, if necessary, with opium, should be given at bedtime for a few nights, and a purgative draught, combined with magnesia and a little wine of colchicum, should be taken on the ensuing morning. If the inflammatory symptoms run high, salines, with antimony, must be frequently exhibited during the day, and in every case the patient should drink large quantities of mucilaginous diluents, with nitrate of potass, if the scalding is excessive. It may possibly be necessary to employ general bleeding — more frequently it is advisable to apply leeches or cupping-glasses to the perinæum, and immerse the patient in a warm-bath. If, however, the inflammatory symptoms are not unequivocally great, there can be little question that saline medicines are rather injurious than useful. The discharge is apt to become all at once very thin, and a troublesome gleet succeeds. In these cases, we may substitute another combination with the mercury and the purgatives. It consists of the union of the powder of gum tragacanth, nitrate of potass, carbonate of potass, and Dover's powder. This frequently relieves the pain with great rapidity, and, when combined with mercury and aperients, has never been attended with unpleasant results.

The usual effect of the plan of treatment I have here sketched, is to relieve the pain in micturition, and diminish or remove the inflammatory symptoms. The discharge becomes, pari passu, more thin, and frequently more profuse. This is a point which requires much attention. It is highly necessary not to carry mercury or depletion beyond a certain extent. If the discharge becomes very thin, before these means are discontinued, it is much to be feared that interminable gleet will follow. The difficulty is, to hit the moment when a change of treatment may be wisely ventured. If we are precipitate, the inflammatory symptoms return, and the scene is to be re-enacted;— if we are too late, the prospect of gleet is before us. I think I have observed that it is better to allow slight scalding to exist, when the change to which I have alluded is commenced; I mean that the antiphlogistic treatment should not be so pushed as to remove all pain in micturition. There should be a little, and a very little.

When the suffering is nearly gone, apparently just on the eve of departure, and when the discharge is profuse, and inclined to be thin, but yellow, I would recommend that cubebs, or copaiba should be given. My own predilection is in favor of copaiba, for I think that cubebs have succeeded best in those cases where there have never been inflammatory symptoms. Of this, I am far from certain, but such is my impression. The ordinary combination of copaiba with the spirit of nitrous æther is good, but that with the tinctures of kino or catechu is usually better. Cubebs may be given in combination with copaiba, or they may be exhibited in separate forms upon the same day. I do not dwell upon these points, because I am now advocating a principle of treatment, rather than weighing the advantages of detail.

Whether cubebs or copaiba be administered, the arrest of the discharge is commonly speedy and decisive. A few days will frequently be sufficient to effect an apparent cure. But this is too often delusive. The discharge is stopped, but merely for a time. After a few days it generally re-appears, watery, and a gleet. Now is the period for injections.

As soon as the discharge is manifestly yielding, or has yielded to cubebs or copaiba, I employ an injection of poppies and acetate of lead in the proportion of half a grain to the ounce. This should be used at night, and allowed to penetrate, without restraint, as far as the ordinary impulsion of the syringe will convey it. The copaiba or the cubebs should not be discontinued. In the course of a week or ten days the injection may be repeated more frequently, and its strength may be increased, whilst the other medicines are gradually abandoned.

I do not pretend that this plan of treatment will always be successful, but I think that it is so in the greater number of instances, and I believe that it is always safe. The watery discharge, observed only in the morning, continues for some time, and so long as it continues the injections must be used. There is another circumstance deserving of attention. After all apparent discharge has ceased, the patient frequently complains of the lips of the orifice of the urethra being united in the morning by a sort of gum. The patient is liable at any time to a violent return of discharge. I have seen this occur in many instances. Whilst this appearance is observed, the injections should be persevered in, and mild aperient medicine occasionally taken. — *Medico-Chirurgical Review.*

Cow-Pox and Small-Pox Co-existent.

In a late number of the Medical Gazette, I observed a letter from Mr Brown, of Mussleburgh, disapproving, in strong terms, of the practice of vaccinating to prevent variolous contagion.

The importance of the subject at the present crisis will justify my trespassing on a small space of your valuable journal. I have, within the last two months, had opportunities of noticing many cases of small-pox, which have occurred in the practice of my uncle, Mr Selwyn; the variolous epidemic having been prevalent here.

The greater part of the cases (occurring in persons who had not undergone vaccination) were very severe, and of the confluent kind; while those after vaccination were uniformly mild, producing scarcely any constitutional disturbance, with a very trifling quantity of the pustular eruption: but I wish particularly to direct your attention to the following case.

On the 17th of August last I vaccinated Ann Mayo, aged thirteen months, while suffering under a commencement of the pyrexia and other usual precursory symptoms of variola; of which pustules began to make their appearance on the 19th. The cow-pock was at the same time pursuing its usual course, and effectually succeeded in subduing its opponent; for on the 24th (seven days from the time of vaccination, and five from the first appearance of the variolous eruption) there were two perfect vaccine vesicles, and the small-pox pustules, which had not been very numerous, were dying away. As I do not recollect ever meeting with so decidedly satisfactory a proof of the efficacy of the Jennerian discovery, I shall feel myself greatly obliged by your giving it publicity; at the same time allow me, through the medium of the Medical Gazette, to express my gratitude to the Board of the N. V. E. for the very prompt and liberal attention which has always been paid to my applications for lymph. I beg leave to subscribe myself, sir,

Your obedient servant,
W. S. Morris.

Sedbury Dispensary, Sept. 9, 1833.

ARROW ROOT.

'Arrow root,' says Berzelius, 'being thought strengthening by some physicians, is sold very dear,, for which reason it has been attempted to distinguish it with certainty from other kinds of starch. According to Guibourt it can be recognised, under the microscope, by the grains of arrow root being transparent, and smaller than those of potatoe starch, though their shape and size are variable also.' Though I cannot help congratulating Berzelius on his newly-born tolerance of microscopic observations, still I must lament the complaisance which induces him to register, in catalogues invested with the authority of his name, such superficial observations as those which he takes from Guibourt. According to the characters attributed by this writer to the fecula of arrow root, there are perhaps a hundred vegetables in France, whose fecula might be confounded with this Brazilian substance. What fecula is not transparent? And what fecula is more transparent than that of solanum ? Moreover, what fecula, with the exception of the fecula of chara seeds, has not smaller grains than the fecula of potatoes, and a size quite as variable ? As to shapes, how many there are whose shapes are infinitely varied ! But, by an unlucky chance, it happens, that so far from being transparent, the grains of arrow root are more shadowed than any that we have observed, and present characters which we have not met with in any other. These marks of distinction are as follows : The fecula of arrow root when examined in large quantities, has a crystaline yet faint lustre ; it is rougher to the touch than that of potatoes, and almost as much so as that of wheat starch ; it contains small clots which resist pressure, and crackle under the fingers. When examined in water, and by the microscope, it presents groups of five or six, and even of ten or twelve grains, which the most rapid movement, and the most prolonged shaking, do not succeed in dissevering, but which continue to float over the liquid in company.

But the most distinctive of all the physical characters of this fecula is, that each grain is the half, or quarter, or third, &c, of a solid sphere ; that others are small cylinders, with one extremity rounded *en calotte*, and the other flattened ; lastly, that others exactly resemble a painter's *muller ;* so that each of these grains has one or more angular surfaces, whose refraction produces those strong and varied shadows which we observe on the contour of the microscopic image ; one might sometimes suppose one's self to be looking at crystals. Their structure is such, that it may be better known from a written description, than from the most exact drawing. Moreover, one often sees, through their transparent side, black lines crossing one another, sometimes like a T, and sometimes like a star, just as in the fecula of rye ; and if we make the grains turn round, by moving the water, we can assure ourselves that these lines are by no means superficial, but, on the contrary, exist in the very heart of the grain, indicating the existence of cells, like those which I have observed in the lentil ; the largest grains do not exceed $\frac{1}{25}$ of a millimetre in diameter. The adhesiveness of a great number of these grains to one another, and the angular surfaces which they have contracted by their agglutination, (always preserving, however, one of their curved surfaces,) would lead one to suppose that this fecula, which is composed of round and softish grains, has been treated, immediately after its extraction, by a violent stove heat. What confirms me in this supposition is, that the long boiling, which is sufficient to spread out the integuments of potato fecula, so as to make them acquire from twenty to thirty times their original diameter, barely quadruples the volume of the grains of arrow root. This explains how it is that Pfaff found that ten grains of arrow root boiled in an ounce of water merely produced a mucilaginous liquid, while the same quantity of common fecula, in the same quantity of water, forms a gelatinous mass, a real starch.—*Nouveau Système de Chimie Organique, par F. V. Rapsail,* § 3.

INHALATION OF CHLORINE GAS.

The inhalation of chlorine gas we have tried rather extensively among the workers in flax, suffering from chronic bronchitis. Sixteen of these men I induced to come every evening, after the day's work, to an apartment, the atmosphere of which we impregnated with chlorine, by pouring muriatic acid on manganese. Here they remained at first for a quarter of an hour, and afterwards for about an hour. One individual declared, the second evening, that he had not slept so soundly for several years as he did the night after inhaling; and on the fifth evening, all the men declared their breathing freer, and the cough considerably reduced. Those who previously could obtain little unbroken sleep had better nights; and others had regained appetite. The plan, from accidental circumstances, was omitted for three evenings. A recurrence of cough and dyspnœa was the speedy result. They gladly therefore returned to the inhalation of the chlorine, and continued it for several weeks, with the most marked advantage. They have since resolved, on the approach of next winter, to take a room for themselves, adjoining their mill or houses, for the purpose of the regular inhalation of chlorine. Two hatters, laboring under similar diseases, joined the flaxmen, and experienced the same benefit.— *Thackrah on the Effects of Arts, &c. on Health and Longevity.*

REMARKABLE CASE OF ABORTION.

A lady, who was the mother of three children, requested the advice of Dr Taxil, of Brest, together with another practitioner, to ward off, if possible, a threatened miscarriage, the third within fifteen months. In spite of their endeavors abortion took place; the abortive ovum was entirely excluded, and it was found that the funis passed three times round the child's neck, which was so compressed by it as not to be more than two lines in diameter. It was clear that this malposition of the funis prevented the maternal circulation from passing to the child, thus causing a reflux of blood to the placenta, which was very large in proportion to the child. Dr Taxil observes, that this twisting of the cord round the neck of the child, at so early a period of pregnancy, had not hitherto been described. He asks if this twisting was not the cause of the miscarriage. He is surprised too that the body of the child should have been properly developed, though the pressure on the neck must have entirely stopped the fœtal circulation. — *Archives Générales Médicine, Julliet.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—Willis.

Art 1.—The French Concours.

Most of the readers of the Magazine have probably heard of the French *Concours*. This term is employed to designate those trials of scientific learning and professional talent in which the candidates for the honorable places of teachers in the Medical School of Paris, are obliged to engage before receiving their appointments. These trials are conducted in presence of the public, and of judges whose duty it is, as it was those of the Olympic games, to decide on the merits of the respective competitors and to award to the victor the high prize of his achievement. The necessity of this institution in a city like Paris is obvious. Where the number of public professorships is as large as it is there — connected, too, as they are, either directly or indirectly, with great honor and emolument, were it not for some guardian provision of this sort, intrigue would often work its way to the stations which are now worthily occupied by the worthy, and aristocratic patronage would usurp the power of bestowing its favors on those of its minions who could never have won them for themselves. That the *concours* itself is a perfect guaranty against improper influences, or an infallible preventive of the abuses likely to attend the elective franchise, or uncontrolled ministerial power in the bestowment of office and the award of honor, we do not pretend ; but that such to a very considerable extent must be its operation seems to us certain. Whether they manage these things better in

France than they do elsewhere, or whether the interests of medical education in our own schools would be advanced by the adoption of a similar system in the choice of lecturers, we leave our readers to judge. We intend in this article, by the assistance of a file of the French Lancet, to exhibit in a general way the mode in which the concours is conducted, and we do this in giving the proceedings in the election of a professor to the chair of Surgical Pathology in the School of Medicine.

The concours was to have opened on the 11th June, 1833, but for some reasons which are not given it was deferred to the 5th July. The names of the candidates for the professorship, submitted to the Faculty, May 24th, were Dubled, Gerdy, Berard, Sanson, Lisfranc, Velpeau, Laugier, Blandin and Lepelletier. The judges appointed by the Faculty were Dupuytren, Boyer, Roux, J. Cloquet, Marjolin, Richerand, Cruvielhier, Fouquier and Pelletan, with two substitutes, — Dumeril and Orfila. Those appointed by the Academy of Medicine were Poirson, Hervez de Chegoin, Ginelle and Lagneau, with Amussat as a substitute. Roux was chosen President of the Jury, and Cruvielhier Secretary.

The concours was divided into four parts or trials, consisting of, 1st. The appreciation of anterior titles; 2d. An oral lesson or lecture after three hours' reflection; 3d. An oral lesson or lecture after twentyfour hours' preparation; 4th. Argumentation of theses. The opinion of the judges was carefully concealed till the close of the concours in order that the candidates might be ignorant during its progress of their chances of success or failure. The judgment of the jury was expressed by the figures, 1st, 2d, 3d, 4th, &c. Each candidate who, at the termination of the four trials, had had constantly one and the same of his competitors in advance of him, was of course excluded. This being done, if no one of the other candidates was in advance of the rest, the choice was made by a majority of the ballots of the jury.

The public trial, consisting of a lecture of one hour, after three hours' preparation, commenced at 4 o'clock, P. M. July 10th. The first hour was occupied by Sanson on '*the Causes and Treatment of Inflammation of the Venous System*,' and the second by Lepelletier on '*Strangulation*.' On the following day Velpeau gave a lecture on '*Suppuration*,' and Gerdy on '*Inflammation as a means of cure in Surgical Affections*.' July 12th, Blandin lectured on '*Gangrene*' and Dubled on '*the Diagnosis of Surgical Diseases*.' On the next day Berard lectured on '*Cancer*,' and this lecture terminated this portion of the concours, Lisfranc and Laugier having withdrawn their names from the list of candidates.

In noticing the different performances, the Lancet says, M. Sanson enumerated very fully, and with the talent of an excellent observer and practitioner, the causes of inflammation of the venous system, but his lesson was wanting in classification and in history. He had not sufficient time to terminate the treatment, beside which, he was seriously indisposed. His lecture was received with much applause. There were various opinions in relation to the merits of M. Lepelletier's performance; some criticising it with severity, and others placing it in the front rank of excellence. M. Velpeau in his lecture on Suppuration went very extensively into the history of the subject. He examined and estimated the opinions of the chemists, vitalists and solidists, and managed the general question with much skill. He treated of Suppuration not only as a disease, but as a therapeutic means, and found time not only to go over his whole subject, but to make a digression on purulent absorption. The lecture was very warmly applauded.

M. Gerdy enumerated at great length the cases of spontaneous cure, from those of wounds made by the finest needles to such as result from the mangling of the butcher's knife. He cited a crowd of extraordinary cases and exhibited great erudition. But this method of treating his subject necessarily led him into numerous repetitions, and deprived him of the advantages of a philosophical classification. M. Blandin did not think it possible to classify the causes of Gangrene, and contented himself with enumerating them without grouping them. He replied to the remarks of M. Velpeau on the absorption of pus. He had time only to allude to the important question of amputation before or after the formation of the inflammatory circle. The lecture of M. B. was lucid, practical, well delivered and well received.

M. Dubled had a difficult question — that of the diagnosis of surgical diseases. He passed in review the various affections, from the feet to the head, pointing out, in order to avoid them, the sources of deception and error. The language of M. D. is copious and fluent. The lecture of M. Bérard on cancer was excellent, especially that part of it relating to pathological anatomy. He gave a very good description of the encephaloid cancer, of the vessels which traverse it, and of the apoplexies occasioned by their rupture within the cavity of the cranium.

The second public trial, consisting of a lecture, after twenty-four hours' preparation, commenced July 15th. The subjects, in this trial as in the former, were awarded to the several candidates by lot. One hour each was occupied by Sanson, and Lepelletier, during the first day, in treating the same subject—that of *White Swellings.* M. Sanson, always calm almost to coldness, made a very practical and sound lesson. He classed white swellings according to their situation, and studied them very fully in the ginglymoid and other articulations, He made a very complete exposition of the differential diagnosis, the symptoms and treatment of this disease. He omitted nothing that was necessary, added nothing that was unnecessary, and hazarded no doubtful opinions. M. S. exhibited great soundness of judgment, and extensive, accurate practical knowledge. M. Lepelletier did not consider it necessary to go into the question of *resection*, believing that this operation ought never to be resorted to in the treatment of white swelling. M. L. neglected to notice the works of Cruveilheir and Brodie, and did not insist sufficiently on the importance of pathological anatomy; but that part of the subject relative to the influence of scrofula was managed with great judgment and skill. Both these lectures were received with much and just applause.

The subject which fell to the lot of Velpeau and Gerdy was that of *Wounds of the Head.* M. Velpeau treated particularly the complications of these wounds, considering that the wounds themselves possessed no distinctive or peculiar character. This candidate exhibited, as usual, great erudition. All his propositions were sustained and illustrated by facts derived from the most ancient as well as from modern authors—from the Greeks down to the anatomical Society. The lecture was very methodical and measured to the hour as with a compass — a tact which M. V. possesses to an extraordinary degree. Great applause. M. Gerdy wanted clearness at the commencement, but he soon became animated and went into important considerations on commotion, which he treated in itself and not in its relation to wounds. The second part of his lecture, which was enthusiastically applauded, was replete with practical views very clearly and methodically exposed.

Blandin and Dubled had to treat of *Aneurism considered in a Surgical point of view.* M. Blandin went rapidly over the pathological anatomy of the subject, presuming, without doubt, that no one would question his knowledge on this point. The lecture was well arranged, systematic, lucid and practical. M. Dubled distinguished himself by the eloquence of his manner and language. Full of grace, ease and elegance, his words flowed like honey from his lips. He was born an orator. His lecture was methodical and rich in surgical and physiological considerations. It was warmly applauded, especially by the students.

M. Berard had the important subject of *Tumors of the Groin.* Judging, rightly, that the foundation of his subject consisted in the differential diagnosis of these tumors, he divided them into those situated in the inguinal and those situated in the crural regions. He then examined in succession the various species of hydrocele, sarcocele, varicocele, hernia, cystocele, fatty tumors, ganglia, &c, and recapitulating the distinctive signs of the several groups, he finished, though slightly embarrassed, a lecture which delighted his auditory, and which won him warm and repeated plaudits.

The last trial consisted of the reading and defence of *Theses* by the several candidates. Notices of these exercises we omit, as not essential to our purpose, which was simply to give to our readers a general notion of the nature and operation of the *Concours.* We close the article with a statement of the result of the scientific rivalry whose history we have given. On the first ballot the votes were, for Gerdy 4; Velpeau 4; Blaudin 2; Sanson 2. On the second, for Gerdy 6; Valpeau 3; Blaudin 3. On the third, for Gerdy 7; Blaudin 5. M. Gerdy was therefore nominated to the chair of Surgical Pathology.

ART. II. — MEDICAL STATISTICS AND BILLS OF MORTALITY FOR BOSTON.

To the Editor of the Medical Magazine.

DEAR SIR, — The accompanying sheets being a continuation of a paper on the Bills of Mortality for the City of Boston, published in the first volume of your Magazine, are at your disposal.

Yours, truly,

D. H. S.

TABLE I.

Statement of Deaths in Boston for the years 1832 and 1833; containing the amount for each year, and number which has occurred from the most prevailing diseases.

YEARS.	WHOLE NUMBER OF DEATHS.	DISEASES OF THE LUNGS.			FEVERS.							INFLAMMATIONS.							DROPSY.				BOWEL COMPLAINTS.							
		Consumption,	Acute affections,	Total,	Bilious,	Typhus,	Inflammatory,	Intermittent,	Scarlet,	Type not defined,	Total,	Brain,	Lungs and Chest,	Stomach and Bowels,	Liver,	Erysipelatous,	Neither Organ nor Type defined,	Total,	Brain,	Chest,	Organ not named,	Total,	Malignant Cholera,	Cholera,	Dysentery,	Diarrhœa,	Dyspepsia,	Colic,	Other affections,	Total.
1832	1761	246	109	355	1	45	1	1	200	4	252	13	109	34	12	4	3	176	44	6	38	88	78	15	21	3	1	4	27	149
1833	1476	240	85	325	5	62			87	16	169	18	85	24	17	3		147	52	7	24	83		19	38	3		4	18	82

TABLE I.—CONTINUED.

YEARS.	Convulsions,	Croup,	Quinsy,	Hooping Cough,	Measles,	Rheumatism,	Small Pox,	Asthma,	Apoplexy,	Palsy,	Drunkenness.	Casualties.	Part. and Childbed.	Teething.	Debility.	Mortification.	Abscess.	Cancer.	Gravel and Stone.	Suicide.	Epilepsy.	Still-born.
1832	35	40	6	22	70	3	1		15	19	54	46	14	21	15	9	8	4	1	8	1	86
1833	36	43	2	28	2	4		3	19	12	43	41	17	30	12	4	4	11		14	1	102

TABLE II.

Summary of Deaths in Boston, for each month of the Years 1832 and 1833; with the number of Adults and Children — excluding the Still-born.

YEARS.	JANUARY.			FEBRUARY.			MARCH.			APRIL.			MAY.			JUNE.		
	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.
1832.	71	76	157	53	63	116	62	77	139	67	91	158	54	103	157	52	79	121
1833.	57	54	111	65	49	114	57	37	94	55	51	106	46	36	82	46	37	83

TABLE II. — CONTINUED.

YEARS.	JULY.			AUGUST.			SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.		
	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.
1832.	58	54	112	58	42	100	74	74	148	94	78	172	85	70	155	74	65	139
1832.	44	51	95	65	77	142	67	110	177	61	61	122	70	53	123	66	59	125

The number of Deaths recorded for 1832 and '33, are, in the three months of

Spring . . .	341 Adults.	395 Children.
Summer	323 "	340 "
Autumn . . .	451 "	446 "
Winter	386 "	366 "

Table I. The number of deaths in the City of Boston for the year 1832, was larger than that of any preceding year, by upwards of 300; the largest number occurring before, was 1450 in 1825. The number in 1833, was less than the previous year, by 285.

It will be perceived by reverting to the Table, that the deaths from *Consumption* in each of the last two years, considerably exceeded those of either of the nineteen preceding, with the exception of 1824, in which year the number was greater than that of 1833, and less than that of 1832.

Of *Acute Affections of the Lungs,* the number of deaths in 1832 surpassed those of either year of our series; but four years, 1828, '29, '31, and 33, exceeded the number of those of 1832.

The amount of deaths from *Diseases of the Lungs* in the year 1833, was greater than that of any previous year by 30.

The number of deaths from Typhus Fever in the last two years, has been greater each year, than in either of the preceding six years; and the number in 1833 is surpassed only by the years 1814, '17, '18, and '19.

Scarlet Fever has been with us, as an epidemic, the last three years, and its ravages have been truly frightful. Previous to the year 1831, the highest number of deaths any one year, for the previous eighteen years, was 12; during the whole series for which these tables are formed, including the year 1831, in which 84 deaths occurred, but 134 deaths are registered. In the year 1832, 200 deaths are recorded! exceeding the mortality of the previous nineteen years, by 66.

The total number of deaths from Fevers in 1832, exceeded by 81 that of any previous year; the number of deaths in 1817 exceeded those of 1833.

The whole number of deaths from *Inflammation of the different Organs,* was less in 1832, (which so much exceeded the mortality of 1833) than there had been in four of the preceding series, viz. 1824, '25, '28, and '31.

Of the 171 cases of Dropsy, which are recorded for the last two years, 62 or nearly one third of the cases, are from diseases of organs not named.

Although *Affections of the Bowels* were much more general, in the year 1832, than at any previous period, *seventyeight* cases only, of Malignant Cholera, are registered in the bills of mortality. The two first cases occurred on the 15th of August; the last case was noticed in the second week of December.

The highest number of deaths any one week during its prevalence, was 19 in the last week of November.

After deducting the deaths from Malignant Cholera, it will be seen that the mortality from Bowel Complaints, in 1832, greatly exceeded that of any previous year.

The deaths from these affections in 1833, were greater than any years, excepting 1821, '24, and '25, in which years, the number of deaths from Dysentery was unusually large.

The number of deaths from *Hooping Cough* in 1833 have been exceeded only one year, 1828, in which year, there were 40 cases.

The number of deaths from *Measles*, was greater in 1832 than any previous years, excepting 1821, '25 and '29.

The table shows an increase of 10 deaths from Drunkenness in 1832, over the preceding years—it will be observed that the number in 1831, had exceeded any of the previous series.

Suicide is becoming more common among us. The number in 1833 was greater than any previous years. During the first *eleven* years of this series, but 38 cases are recorded—the *ten* succeeding years, exhibit 74 cases.

The number of Still Born was greater in 1833 than any previous years, excepting 1822, '23.

ART. III.—ON THE TREATMENT OF ACUTE RHEUMATISM.

[The following extract from a valued correspondent, seems to me worthy of a place in the Medical Magazine, and I therefore send it you.]

D. H. S.

WILLIAMSTOWN, January 22, 1834.

'MOST Physicians have been more or less dissatisfied with the course of treatment, as recommended in books, for the *Acute Rheumatism*. They have felt perplexed that a disease, whose nature was so manifest and whose indications were apparently so plain, should continue its own course, and refuse to yield to means which were obviously proper. There has been, it is true, some diversity of opinion in relation to its treatment, but in the main, physicians agree that an antiphlogistic course should be pursued. Some recommend a moderate course, they bleed some, puke and purge some, and feel a satisfaction in mitigating *some* of its most prominent symptoms. Others use the lancet boldly, and in conjunction with it employ other effective adjuvants. Yet the disease goes on, though greatly mitigated and made much more tolerable to the patient. In the latter company the writer of this article has ranked himself, and until lately had supposed that early and repeated bleedings, from a large orifice, was the only effectual plan of subduing this disease. Having, however, been called to treat this disease in a patient for the third time, I determined to pursue in the last attack a new course. The patient was one of the most robust of the young men in this place, and I supposed that bleeding in *his* case was absolutely necessary. I accordingly bled largely, and made use of other antiphlogistic remedies in the same proportion. The disease in the two first attacks continued about four weeks, though mild and evidently subdued in a good degree. The friends of this young man were opposed to taking so much blood, though willing to submit the treatment to the judgment of the physician. I confess this feeling on the part of the friends led me to inquire for some different mode of treatment. I accordingly, when he was attacked the third time, determined to pursue the following simple mode of treatment, viz. to administer as much of the solution of tartarized *Antimony*, every sixth hour, as the patient could retain on the stomach without vomiting, and in the interval, twentyfive drops of the saturated tincture of *Digitalis*, the latter to be increased five drops daily. The result was, that it proved quite an unprofitable job, for I had no occasion to see my patient more than three or four times. The disease was perfectly subdued in less than a week. Since then I have treated four or five cases on the same plan and with uniform success. Twice I have been called in consultation in the case of patients where the disease had continued from three to five weeks under a moderately depleting course. In these cases the combination of digitalis and solution of antimony has in twentyfour hours had a manifest effect. In the case, however, which was of five weeks standing, these articles were employed only three or four days. The wine of Colchicum was then substituted for antimony and digitalis, and it then had an excellent effect. The fact was, the patient had taken the solution of antimony to that extent previous to my seeing her, that it became very difficult to administer any quantity without producing vomiting; and, moreover, had become quite weak and worn out with the disease. I would treat then Acute Rheumatism, with tartarized antimony and digitalis, giving the former in quantities as much as the stomach can bear without vomiting, and the latter from twenty to thirtyfive drops, in alternating doses every third hour. Purgatives, of course, have their place. I do not think that bleeding is to be discarded; it may be very necessary, but, with this course of treatment, it is not so essential, and in most cases may be omitted entirely. I place the whole efficacy of the proposed course of treatment on the combination of the two. Neither, answer the purpose singly. The modus operandi of these agents is not obscure. They both diminish arterial action. Bleeding diminishes the force of the circulation also, but does not affect the capillaries of the extreme parts. In pleurisy a decided and permanent effect follows a good bleeding, much greater than when the disease is remote from the centre of the circulatory system. I have felt some hesitation in proposing this course of treatment for Acute Rheumatism, fearing that like other methods, it will fail when put to the test in the hands of others. All that can be said, is, that the effects are as have been stated in my own private practice. I might give a detail of all the cases I have treated on this plan, but the course and the plan are so simple, that nothing farther need be said.

ART. IV. — BRONCHOTOMY.

Cases and Dissections, by A. L. PEIRSON, M. D.

JAN. 25, 1834. A child of Mr C. N——, 18 months old, was brought to me, from a distance of two miles, with a slight huskiness in its breathing, which came on suddenly the day before, after the following accident. The child was playing on the floor, where were nutshells; suddenly it choked and appeared to be suffocating. The nurse immediately passed her fingers into the throat, and perceived a body which she took for a nutshell. She pushed it further down, till it was beyond reach, when the suffocation was relieved, and the croupy breathing commenced. The child was but little disturbed with the accident, took its food as usual, and no physician was called. It passed rather a restless night, but had no cough, and but little difficulty of respiration. The symptoms continued as favorable till the period of my first visit at noon, twentyfour hours after the accident. The child was at this time playing about the floor, although an audible wheezing was distinguished at each respiration. There was no unnatural venous color of the face or extremities. I announced to the father of the child the great danger of the case, and the necessity of an operation to remove the cause of danger, the existence of which he was very reluctant to believe, and he was still more reluctant to consent to subject his child to a surgical operation. A consultation was called, and we decided upon the following course. As there appeared to be no dangerous symptoms present, we agreed to defer the operation until the morning, unless, in the mean time, difficulty of respiration should render its immediate performance imperative. A small dose of castor oil was administered.

The child continued to present the same appearances till about nine o'clock in the evening, when, after an effort to vomit, it became suddenly affected with very great dyspnœa. I saw the patient very soon after, and upon a second consultation it was agreed to perform the operation of bronchotomy as speedily as possible. By this time the difficulty of breathing had become very great, and the countenance had acquired a livid hue. With the assistance of several of my medical friends, I proceeded to the operation in the following manner.

The child was laid upon the table, covered with folded blankets. A sheet, rolled up into a firm cylinder of about six inches in diameter, was placed so that the posterior part of the neck rested fairly upon it. An incision of an inch and a half in length was made over the trachea, the upper extremity of the incision commencing at the cricoid cartilage. Very little careful dissection laid bare the trachea, which was penetrated with a spear-pointed knife, and the opening afterwards enlarged with a probe-pointed bistoury. A small triangular piece, of the width of two rings of the trachea, was snipped out with scissors. No vessel of importance was wounded, and very little blood escaped into the trachea. On holding open the lips of the wound, so that the air could enter freely into the opening, the respiration was somewhat relieved, although still very laborious. A piece of lint was carefully fastened to an eyed probe, and passed through the opening of the trachea into the fauces, in such a manner that any foreign body above the incision must have been removed. This manœuvre invariably produced vomiting, but did not relieve the breathing. A pair of long, slender, curved forceps, which reached to the bifurcation of the trachea, were now passed downward, but no foreign body could be discovered. Every gentleman present was satisfied that the trachea was thoroughly searched, and that the obstruction must be below the termination of this tube. Very slight effort at coughing was produced, when any instrument was passed downward, but not sufficiently forcible to dislodge a foreign body.

As the incision when left to itself immediately closed, an elastic gum tube was inserted into the opening, and secured about the neck of the child, which was now placed in the cradle and suffered to remain quiet. The temperature of the skin was higher than natural, and the pulse was 144 and full. It was hoped that some effort at coughing might bring the cause of obstruction within the reach of instruments. The breathing continued about the same for several hours, when it became more and more oppressed, and ceased at six, A. M.

On examining the body, four hours after death, the cause of the dyspnœa was found in the right bronchia, just below the bifurcation. It was the shell of a chestnut, which had been swallowed in a coiled-up shape, and had expanded so as to press against the sides of the tube, thereby affording sufficient resistance to the expiratory efforts to retain its place.

The success of the operation of bronchotomy, in cases of foreign bodies lodged in the windpipe, depends, in a considerable degree, upon the nature of those bodies. Round, smooth bodies, as peas, beads, &c, are almost invariably ejected from an opening of sufficient size; while those of an irregular, angular shape, are more apt to remain fixed. It is very obvious that when the opening into the trachea does not relieve the dyspnœa, the cause of difficulty is almost certainly to be found below the incision. In such cases, therefore, we should be justified in continuing the division of the trachea farther towards the sternum, and in searching with forceps and bent wires beyond the bifurcation of the bronchi.

The difficulty of the operation was in this case increased by the necessity of operating by candle light, for notwithstanding a very strong light was produced by a number of candles, we could not prevent the bottom of the incision being darkened by a shadow. It is worthy of remark that the child, although a fine, healthy-looking boy, had the bronchial glands tuberculous; one of which, of the size of a pigeon's egg, was softened to the consistence of putty. The mother of the child had died about a month before, of consumption.

Several years since, I was foiled in endeavoring to remove a foreign body, which remained fixed in the larynx. The following are my notes of the case:

Dec. 4, 1829. A boy thirteen months old, sitting in its mother's lap at table, while the family were dining upon eels, and the fish bones were lying about the table, was observed to choke, and its countenance to turn purple. The mother carried the child to a neighbor, who put her finger into the pharynx and felt the projecting points of a fish bone. The physician of the family, a gentleman of skill and experience, was now called in, who passed his finger into the child's throat, and, failing to withdraw the bone, dislodged it from its first position, pushing it beyond the reach of the finger, and affording the child some relief from the impending suffocation. Still, however, the respiration was stridulous and convulsive. An attempt was now made to extricate the bone by passing down a double-bent wire. This attempt likewise failing, a probang was passed several times into the stomach. At this period my attendance was requested in consultation. The child's breathing was now so precisely like that of croup, that the most practised ear could have perceived no difference. There was no cough. Thinking the bone might be a very small one, and left sticking in some part of the œsophagus, and thereby exciting the muscles of the larynx to spasmodic contraction, I passed the wire and the probang with no better success than before. We were still reluctant to give up the opinion that the foreign body was not in the air passages, and an emetic was accordingly ordered, the operation of which contributed nothing to the child's relief. The operation of tracheotomy was therefore proposed, and being acceded to by the parents, was performed as follows, about four hours from the time of the accident.

An incision, two inches long, was made through the skin and fat over the trachea, and with much difficulty the cartilaginous rings of the trachea were exposed, so as to be readily felt with the point of the fingers, for it was impossible to obtain a distinct view of the part, owing to the very large quantity of fat with which the cellular membrane was loaded. The thickness of the fat alone was more than an inch. This difficulty was likewise increased by the rapid motion of the larynx, which was drawn up and down in every act of respiration, which had now become extremely violent, threatening instant suffocation. A spear-pointed scalpel was passed down on the finger, and one of the rings of the trachea carefully divided. A probe-pointed bistoury was then introduced, and three other rings were divided. In order to give a more free admission to the air, a small portion of two of the rings was cut away with scissors. Notwithstanding the freedom with which the opening had been made, when left to itself the external parts immediately collapsed over it, like a valve, and inspiration was thereby entirely prevented. A tube of elastic gum, rather larger than the largest sized catheter, was then introduced, through which the breath passed readily to the entire relief of the little sufferer. Before placing the tube permanently, an attempt was made to clear the larynx by passing up a probe. This was effected with some difficulty, owing to the depth of the wound and the suffocation which was caused by the attempt. It passed, however, till it struck the roof of the mouth, apparently meeting with no obstruction. An attempt was now made to pass up an eyed probe, with a morsel of sponge affixed to the end of it. From the before-mentioned causes, this attempt, which was several times repeated, entirely failed. Indeed, the suffocation produced by these efforts was in the highest degree alarming. The tube was now placed, and retained by tapes, and a light dressing was applied to the incision. In a few minutes the bleeding entirely ceased, the child breathed perfectly easy, and dropt asleep. This state continued for about six hours, when the child struggled for a few minutes, and died, apparently exhausted. There was no difficulty of deglutition after the operation.

On examination of the body eighteen hours after death, a bone was found sticking into the mucous membrane, just below the rima glottidis, which proved to be one of the vertebræ of an eel. The mucous membrane at this part was slightly abraded, and the bone appeared to be retained in its place by the pointed transverse processes piercing this membrane. No other diseased appearances were observed.

The circumstances most necessary to be considered in a case where bronchotomy is called for, appear to me to be, the nature and shape of the foreign body, — the performance of the operation with as little delay as possible, — and perseverance in searching for the cause of the difficult breathing.

Salem, Feb. 1, 1834.

ART. V. — EDITORIAL CORRESPONDENCE.

Rome, Dec. 27th, 1832.

MY DEAR F. — Until arriving at the 'Eternal City,' after leaving Florence, I inspected no medical institutions capable of exciting much interest. Every considerable village has its hospital, and these are occasionally neat and commodious. At Pescia, I was particularly struck with a miniature establishment exceedingly well regulated. Here were wards for sixty or eighty patients, five or six beds for those who could pay, eight or ten cells for the insane, a small dissecting room, a neat garden with orange and lemon shrubbery in full bearing, and a complete kitchen establishment, apothecary's shop, &c. I was much disappointed in the hospitals of Leghorn. The wealth, population, and commercial importance of the city, would lead one to expect something better than its two establishments, containing between three and four hundred patients, and which are the least creditable hospitals in Tuscany, being little more than alms-houses. The hospital Misericordia has attached to it a humane society, composed entirely of young men, which is a very efficient and useful association. Their duty is, to take cognizance of all sudden accidents, by which people are injured in the streets, or about the quays, wharves and canals, — to repair to the spot, when such accidents happen, with proper apparatus for conveying the injured persons to the hospital. They likewise search out and convey to the hospital the proper objects for reception into that establishment. Upon these occasions they wear a loose dress, covering the head and whole person; and the rules of their order prohibit conversation, so that they are perfectly incognito. The Grand Duke belongs to this society, and occasionally officiates with them. The other hospital, St Antonio, is larger, and is appropriated entirely to males. There I saw an amputation of the leg passably well performed. There is no medical teaching at these hospitals, and of course no museums or cabinets of Anatomy. The ground is marked out for the erection of a new hospital, which is intended to be extensive and splendid. If the Hospitals want magnificence, this cannot be said of the Lazarettoes or Quarantine establishments. These are upon a very grand scale, and exhibit all the contrivances for insulating the substance which has been exposed to contagion, whether man, beast or merchandise, from all contact with the untainted population. The fear of contagion is the great bugbear of this part of the Mediterranean. Our letters arrive pierced with numerous holes, half bleached with chlorine and perfumed with vinegar, although at the same time, by the efficacy of a few small donations at the Douanes, our persons and baggage have never been subjected to examination or purification, by the watchful guardians of public health.

At Pisa is one of the two Universities of Tuscany. The Hospital here is more airy and clean than those of Leghorn, but not more creditable to the skill and science of the Medical Staff. They have here medical lectures and a clinique; but things do not look flourishing. I observed here, what I had before noticed in some of the French and Italian hospitals, that age was no disqualifying circumstance on the part of a medical professor, and, consequently, that octogenarians were seen tottering through the wards, and around the bedsides of a hospital, followed by a crowd of admiring students. The botanical garden, although small, possessed some beautiful specimens, especially a noble Cedar of Lebanon and a Magnolia Grandiflora. The Cabinet of Natural History, is one of the best in Italy, and possesses many specimens of stuffed animals, prepared by the junior professor, Signor Paolo Servi, in a very perfect manner. A wild boar, which was killed near Pisa, is so well set up, that he really looks terrific. The spear with which he was killed, still transfixes him, the blood is still running, or appears to be, over his black and grey bristles; a dog lies in agony at his feet and another has seized him by the ear. The eyes, the tongue, the mouth and teeth are all well preserved or imitated.

In climate, Pisa much resembles Florence. In sunny weather, on the beautiful Quay, by the bank of the Arno, under the shelter of lofty buildings, the air is treacherously mild and soft; while you are met at every cross street and bridge with a chilly blast, which vies in keenness with the razor-edged zephyrs of our American Spring.

The hospitals of the city of Rome have not been often described, for even medical travellers have commonly been absorbed in the contemplation of the antiquities and the specimens of the fine arts, which abound in this most interesting city. The hospital of Santo Spirito is the largest of the Roman hospitals, and one of the largest in the world, and is capable of accommodating 2000 patients, although it has at present but 450. Its wards are immense halls, of at least thirty feet in height, and in width, sufficient to receive three rows of beds on each side, and yet leave a sufficient passage-way in the middle. There is an asylum for the insane, and a foundling hospital connected with Santo Spirito. There is an anatomical theatre and museum attached to this hospital. In the museum, which is a small collection of anatomical and pathological specimens, distributed through several superb apartments, are contained, some very nicely executed preparations, exhibiting, severally, the arteries, the veins, and the nerves, every other texture being dissected away. The preparation of the arteries was made by Flajani. The anatomical theatre is calculated for about 100 seats, and is the most beautiful and costly I have ever seen. The floor is of marble, the ceiling and walls are ornamented with frescos, representing passages of history, connected with anatomy; such as the experiments of Herophilus and Eristratus, upon living human subjects — the pursuits of Democritus — Hippocrates, offering a brazen skeleton at the shrine of Æsculapius, &c. The funds belonging to this hospital are immense. Its annual income is said to be $180,000. When the French had possession of the country, some of the silver plate, belonging to the hospital, was taken possession of. This was considered a heinous, almost sacrilegious act. Before this robbery, the patients were served their soup in silver basins. It is very remarkable, that in all the changes which have affected the governments of this ill-fated country, the property of the sick poor has been respected, and the funds of the hospitals have been held sacred from confiscation.

The hospital of St Giâcomo in Augusto, contains four large wards, two for men and two for women. It is entirely devoted to syphilitic diseases, and is in the most filthy condition. There are about 300 beds, under the care of two surgeons and two physicians, who have each a salary of about $200 per annum. The income of this hospital is said to be $30,000 per annum, and its administration very bad, which I can readily believe, from what I saw of its internal arrangements.

In the hospital of St Giovanni in Laterano, are received, almost exclusively, the periodical fevers, of which there are great numbers at Rome. It contains about 400 beds, which are tolerably well cared for. This is one of the most ancient hospitals of Rome, and is an excellent school in which to study the effects of malaria.

A small but very interesting hospital, devoted entirely to the reception of wounds and accidents, is not dedicated to the name of any saint, but bears that of the Virgin, under the name of

Sancta Maria della consolazione subito. The patients in this hospital seemed to me to be exceedingly well attended, and the means of cure effective, and but little complicated. In the treatment of fracture of the lower extremities, of which the wards contained a number, the practice conformed to English rather than French Surgery. Potts' method is adopted in the treatment of fracture of tibia and fibula. This hospital contains about sixty beds for men, and about half as many for women.

To me, the most interesting hospital of Rome, is that of St Galligano, devoted to tinea capitis, itch, and other cutaneous affections. It was founded by Benedict III, in the year 1725, expressly for the reception of these diseases, as appears by the following inscription over the principal entrance.

'BENEDICTUS III. D. O. M.

Neglectis rejectisque ab omnibus, pruriginis, lepra et scabie in capitis laborantibus, curandis, mortisque immaturœ faucibus eripiendis, xenodochium hoc amplum et mole eximium, annoque censu ditatum, pauperum a fundamentis erexit. — Anno Salutis, 1725.

At the present time, the cases of tinea capitis in this hospital amount to one third of the whole number of patients. This disease is highly contagious, and the subjects of it sleep in a ward by themselves, but notwithstanding all precautions, several of the students in attendance had received the infection. This disease is almost exclusively confined to children from four to fifteen years of age. The method of treatment is very severe. It consists in the first place, of clearing the head from the porriginous crusts, by an unction — secondly, in depilation of every portion of the scalp which is affected. This is done with broad, blunt forceps; and is effected for each other, by the patients themselves, with very great rapidity and facility. I saw one of these juvenile operators take the head of a boy, a little younger than himself, under his arm, and clear a space of several inches in extent, in a very few seconds:— thirdly, after removing the bulbs of the hair in this manner, the whole scalp is scarified by slight incisions. This operation, likewise, is performed by the most skilful among the lads, who are themselves under treatment. I saw it performed with a razor, by a boy, who covered nearly the whole scalp with incisions in about five minutes. It was done with a very light, quick stroke, which appeared to create but little pain. The depilation is very painful at first, but each repetition is more tolerable. After these operations, the head is kept constantly covered with a bladder. This method of cure is very certain, though often protracted. In cases of any severity it rarely occupies less than four months; and in the bad ones, often more than a year. The incisions are repeated every five or six days, and the depilation every fifteen or twenty. One of the lads showed his head in a convalescent state, who had undergone the operation of having the bulbs of his hair plucked out *nine* times, and had had the scalp covered with incisions *fortyeight.*

There is, attached to the hospital, a convent of nuns, whose services are conferred upon the sick; and there are fifteen dormitories for students and priests who attend upon the patients. A garden of considerable extent is attached to the building, the walls of which are covered with orange trees in profuse bearing. The bathing establishment of this hospital is very commodious. It consists of a room in which are sunk in the floor eight large marble troughs, which are constantly supplied with cold and hot water, those appropriated to the use of patients with contagious diseases, being kept separate from the others. The culinary conveniences of this hospital are exceedingly complete.

The only attempt at classification in the diseases of this hospital, was a division into those which are contagious, and those which are not. Under the former class, are comprised Tinea capitis and the itch, and under the latter all other diseases of the skin, under the name of Herpes. The following is the form of ointment which is found perfectly successful in the cure of the itch:

℞	Sulphuris . . .	℥ iij.
	Adipis	℥ vi.
	Muriat. Ammoniæ	℥ i.

The whole number of beds at Sanctò Galligano is two hundred. The wards are large, high, and well ventilated. I observed at this hospital a circumstance which I have before noticed with surprise, in regard to the several hospitals of Rome. The apartments of the men are more clean and free from bad odors than those of the women. Although inferior in neatness to the French hospitals, on the whole the Roman hospitals are better ventilated than those of the north of Italy, and in their appointments, as to baths, lecture rooms, &c, are well provided. There appear to be two sets of medical officers attached to the Roman hospitals. The duty of one set is to attend to the wants of the sick and serve the hospital, while the others are the clinical professors, who select certain cases to be kept apart in wards appropriated to the purpose, as subjects of clinical lectures to the students. An Italian medical lecture is delivered with as much flourish as a fourth of July oration with us. I heard a lecture upon measles, at Sancto Spirito, delivered with loud acclamation and violent gesticulation. At the close of a lecture it is usual for the students to applaud by clapping of hands. Yours truly,

P.

ART. VI.—DEATH—ITS CRITERIA AND CONSEQUENCES.

[Continued from page 388.]

THE chief object of the medical jurist to whom a dead body is submitted for inspection, is to ascertain the cause of dissolution. In order to assist in this investigation, we will follow the arrangement already proposed.

I. *Death from natural causes.*—Death is the inevitable condition to which all bodies that possess life must, sooner or later, be reduced. This termination of their existence forms a grand distinction between organized and unorganized matter. The gradual termination of life, or natural death strictly so called, is very different in its phenomena from the more common or accidental death. In natural death man expires, as it were, in detail; the external functions and those of the animal life being almost annihilated, while those of organic life still remain in vigor. The active powers gradually desert each organ; digestion languishes; secretion, absorption and capillary circulation are arrested; the general circulation is then suspended in the large vessels; and lastly, the contractions of the heart cease. In accidental death, the general circulation and respiration are first arrested, while the other functions are successively and slowly extinguished. So that it has been said that in the former, life is first extinguished in the parts, and then ceases in the heart, the influence of death being exerted as it were, from the circumference to the centre; while in the latter it ceases first in the heart, and then in all the parts, death proceeding from the centre to the circumference. The termination of life, termed natural death, is a very rare occurrence in the human species in a civilized state: animals often reach it; but the cessation of existence from mere old age, has become with us a rare phenomenon. Haller estimates the average probability of human life, and deduces the conclusion that only one individual in fifteen thousand reaches the hundredth year. Accidental death, in contradistinction to natural death, becomes, therefore, an object particularly worthy of attention. This may take place in two ways — either as the slow and gradual termination of a lingering disease; or as the sudden result of some great disturbance of the animal economy, and then called sudden death, as in apoplexy, hemorrhage, concussion, asphyxia, &c.

We now come to consider the natural causes of sudden death, and our observations upon them must be necessarily brief, as it would not be possible to enter into detail upon them in this place; a circumstance not of much consequence, as they are most of them treated of in separate articles through this work. However, we may notice some of the most frequent and remarkable. These are apoplexy, rupture of an aneurism or of a large vessel into one of the cavities; bursting of purulent cysts or other collections of fluid, or of bloodvessels into the air-passages; ossification of the valves of the heart; rupture of this organ; asphyxia idiopathica.

Apoplexy may attack at any age, but in the great majority of cases the age is above fifty years: certainly it may be said to be a disease rather of the decline of life. It is a disease which in some instances may be mistaken in its early symptoms, and may terminate fatally in situations which preclude any observation of the event. Those most predisposed are of a full plethoric system, with large head and short neck. Diseases of the bloodvessels of the brain, such as ossification of the arteries, aneurism, obstruction of the sinuses, lead to rupture of their coats; and it is well known that hypertrophy of the heart sometimes produces apoplexy. In ordinary cases an examination of the brain sufficiently develops the complaint. Blood is usually found in some part of this organ, rarely on the surface, more commonly in or about the corpora striata or optic thalami, or effused into the ventricles. In old apoplectics who have had many shocks, cysts enclosing clots of blood are found; and the brain surrounding them is often observed in different stages of inflammation or ramollissement. It should be borne in mind, that persons seized with apoplexy may fall from a height, and thus bear marks of external injury which might mislead a superficial inquirer as to the cause of death. In cases of rupture of internal aneurisms, or purulent cysts, or of ossification of the valves of the heart, an examination of the body will exhibit the true nature of the disease. The last of the natural causes of sudden death which we have mentioned, is that peculiar disease termed by Mr Chevallier, 'asphyxia idiopathica.' A case of this rare and remarkable affection came under the observation of the writer a few years ago. The subject of it was a healthy woman, forty years of age, in the ninth month of pregnancy. She complained suddenly one evening of weakness and sickness of stomach, and on making an effort to vomit, she fell back and expired without any struggle. The writer examined the body the following day, and inquired diligently after every cause of death in each of the cavities; but he never saw more healthy organs, and, taken altogether, certainly never a sounder body. But the state in which the heart was found led to the discovery of the nature of the case. The parietes of this organ were entire, but quite flaccid, and all its cavities were empty; while the proper veins were much distended with blood. This so exactly resembled the appearances described by Mr Chevallier, and the manner of death corresponded so fully with that of the cases he mentions, that it was thought justifiable to refer the cause of death to the disease just alluded to. Mr Chevallier accounts for death in these cases, by supposing a sudden loss of power in the vessels, chiefly in the minute ones, to return the blood to the heart; in consequence of which this organ, after having contracted so as to empty itself, and then relaxing continues in that state for want of its accustomed stimulus, and so dies. We mention this in order to show that such cases are sometimes to be met with, and that it is necessary to be prepared to detect them. For further information we must refer to the paper alluded to.

II. *Death from violent causes.* — The wide extent of this division, and the great importance of the topics included in it, render it of the deepest interest to the medical jurist. The violent causes of sudden death may be reduced to seven heads, viz. *asphyxia*, *poisoning*, *wounds*, *burning*, *cold*, *starvation*, and *lightning*. From the very able manner in which the subject of asphyxia has been handled in a former part of this work, little remains to be said upon its general phenomena and theory. Asphyxia may be defined the suspension of the function of respiration, and consequently of the circulatory and cerebral functions.

The interruption may effect primarily either the mechanical or chemical phenomena of expiration. The mechanical are the motions of the parietes of the chest, producing inspiration and expiration; the chemical are the disappearance of oxygen from the air taken into the lungs, the disengagement of carbonic acid gas, and the conversion of the venous into arterial blood. Asphyxia may commence by the cessation of either of these classes of phenomena; but in whichever it first begins it speedily involves the other, and both are soon equally suspended. A violent compression of the thorax, such as is produced by the falling of heavy beams of timber, portions of buildings, roofs of mines, &c, a double wound giving entrance to the air into both cavities of the chest, rupture of the diaphragm by which the abdominal viscera gain admission to the chest, the effusion of large quantities of fluid into the pleura, — all these put an end to the mechanical phenomena of respiration by interrupting the motions of the thorax. In other cases these motions cease, but from a different cause: we allude to paralysis of the muscles that move the parietes, which happens when the spinal marrow is cut across, or is pressed on above the origins of the phrenic nerve, or above the third cervical vertebra, or when the whole nervous energy is destroyed, as by lightning. Most commonly, however, it is the second class, or the chemical phenomena of respiration, that cease first; and the motions of the chest are only interrupted because the black blood, which is then driven into all the organs, and especially into the muscles and brain, does not carry along with it the power of excitation necessary to carry on the functions of these parts. This interruption of the chemical phenomena may be produced in various ways: thus, sometimes there is total interception of the passage of air into the lungs, as when an animal is placed in vacuo, or is smothered, drowned, or strangled; at other times, an aeriform fluid does enter these organs, but is not possessed of the principle necessary to act on the blood contained in them, such as azote and hydrogen gases. It may be that the gas inhaled is endowed with deleterious properties; either that it irritates the lungs, as the sulphurous acid gas, muriatic acid, and ammoniacal gases; or that it acts upon the whole animal economy as a poison, such as carbonic acid gas, nitrous acid, carburetted hydrogen, and hydro-sulphureted gases. Thus we find that, by the total interception of all air, or by the inhalation of noxious gases, the chemical phenomena of respiration may be arrested. It is to this we shall direct our attention at present, as the cases in which the mechanical phenomena are first affected, are more rare, and will be afterwards considered in treating of death from wounds or bruises, and from lightning.

The causes that produce death by asphyxia are drowning, hanging, and strangulation, smothering, and the inhalation of noxious gases or air deprived of oxygen.

The medico-legal questions that may arise in the case of a body found in water, may be arranged under the following heads: — 1. whether the body was immersed before or after death; 2. whether the individual has fallen in by accident, has drowned himself, or has been thrown in by others.

1. The inference that the person was living at the time of immersion is drawn from an attentive examination of the external state of the body, and from a careful anatomical investigation. The body of a drowned person usually presents the following appearances. It is commonly very cold, apparently even colder than the actual temperature; the limbs are more or less stiff according to the time that has elapsed since death; the visage is swollen, often dark-colored, but sometimes pale; the eyes are half open and the pupils dilated; the mouth is filled with froth; the tongue is advanced beyond the teeth; and the chest and belly are elevated, the latter being often much distended. This state of the body is common to those who perish in cold clear water, as the sea, rivers, &c.; but the body is sometimes drawn out warm, although death is so complete that animation cannot be restored, the countenance violet-colored, and the veins of the neck turgid. This happens in drowning in warm fluids or in alcoholic liquids, or in marshes where deleterious gases are disengaged, or when the person has fallen into the water in a state of intoxication. The ends of the fingers are often found rubbed or scraped, and dirt or sand, of a nature similar to that of the bottom of the water, is perceived under the nails. Coupled with these is the negative sign furnished by the absence of any lesion that could have caused death previous to submersion. The internal appearances disclosed on opening a drowned body are generally the following. The epiglottis is found elevated, and a quantity of froth fills the trachea and bronchi; the lungs are dilated and gorged with blood; black and fluid blood is found in the right cavities of the heart in a much greater quantity than in the left. The diaphragm is depressed, and water of a nature similar to that in which death

took place is discovered in the stomach. In the head there is turgescence of the bloodvessels, more or less intense as the death has been more or less speedy, and in proportion to the amount of struggling made by the individual. Orfila, in a memoir read at the Academy of Medicine, has reviewed all the signs given by authors for determining whether immersion took place before or after death; and the conclusion he draws is, that there is no certain sign of submersion during life but the presence of water, similar to that in which it is found, in the stomach and air passages; provided that, with reference to the stomach, the water has not been swallowed before submersion, and has not been injected after death: and with respect to the lungs, that the water shall have penetrated to the last bronchial ramifications, and has not been injected before death; and that the body shall not have remained long in a vertical position in the water, so that the water might have entered after death. It would appear from this that we possess two certain signs of submersion during life; but the restrictions imposed on them are such, that, taken apart from others, they are almost useless in the great majority of cases. In speaking of water in the air-passages, Orfila must have meant the froth formed by this fluid with the air; for it is very seldom found in substance in this situation. Devergie states that in a great number of cases he could find but very slight traces of water in the trachea; and in two only did he observe it in any quantity. Indeed, from the observations of Cullen, Goodwyn, and Meyer, it is plain that a very small quantity of water enters the air-passages in drowning; and this is speedily converted into froth by the motion given to it in the attempt at respiration. On the subject of this froth, Devergie makes some interesting observations, the substance of which is as follows: — It is commonly white, consisting of numerous and very small bubbles, constituting a lather rather than a froth properly so called. It never adheres to the trachea by mucus, but is in immediate contact with that tube. All the bubbles that form it have a watery envelope, easily broken, and often in opening the trachea the greater part disappear like soap-bubbles. The froth of drowned persons, then, has but little analogy with the expectoration of pneumonia or catarrh; and it is sufficient to have attentively observed it to avoid confounding them. Its formation necessarily brings with it the idea of vitality, for it cannot take place without motion; an impulse communicated to a fluid and a gas in mutual contact. In order to appreciate its mode of formation, and the value that it may possess as a sign of submersion during life, it appears necessary to inquire how it is produced in other cases than asphyxia by submersion. In pneumonia, for example, the individual is induced to expectorate because the extreme bronchial ramifications are filled with mucus, and the air can no longer reach them, and come into contact with the blood to effect the necessary changes. The invalid expels a frothy matter, because the mucus secreted under the influence of bronchial irritation is beaten and mixed up with the air by the alternate and quick efforts of inspiration and expiration, which constitute coughing. The formation of the froth takes place more easily as the irritation is nearer to the last bronchial ramifications, when the tubes, being of a smaller diameter, are more easily obstructed. It is, on the contrary, produced with great difficulty in the trachea, on account of the great dimension of this canal. In drowned persons similar phenomena take place, after they have expelled a part of the air contained in their lungs. They are soon solicted by the desire to respire; a small quantity of water enters the trachea, and causes the most distressing stimulus, of which we have a proof in the great suffering experienced by persons into whose larnyx a drop of fluid has accidentally fallen while swallowing; a brisk and sudden expulsion of the water is effected, but it is rarely complete: the portion which remains dissolves a little mucus, and becomes viscid, while, at the same time new inspiratory efforts draw in a new quantity of water; from that time, the air, agitated with this fluid, rendered more viscid, constitutes the froth. This is formed with more difficulty in the trachea than in the last ramifications of the bronchi; and consequently we esteem its existence in the superior part of the trachea as a more certain sign of the life of the individual at the moment of submersion, than when it is met in the extreme branches. This phenomenon does not leave very durable traces of its existence, for it is sensibly diminished, and even often disappears under the influence of putrefaction. The portion of the air-passages where it is preserved during the longest period is at the bifurcation of the trachea. In winter it may be discovered in most cases after eight or ten days, but later it completely disappears. It is true that if we except the water contained in the stomach, the other signs of submersion have not a more extended duration. It should be understood that the water thus taken into the lungs is not, as it was formerly supposed, the true cause of death, an opinion to which Baron Larrey seems to incline in his Mémoires. The experiments of Goodwyn have shown that a much larger quantity of water than that which is found in the lungs of drowned animals may be introduced into the air-passages without causing death. Thus, he passed into the lungs of a cat, through an opening in the trachea, two ounces of water; a large quantity when compared with the size of the animal. It had, immediately, difficulty of breathing and a feeble pulse; but these symptoms soon abated, and it lived several hours afterward without much apparent inconvenience: after this he strangled it, and found two ounces and a half of fluid in the air-tubes and cells.

The presence of water, then, in the lungs of drowned persons in the form of froth is to be considered as an accidental and not essential circumstance, although it is one of very constant occurrence. If this fluid is found in large quantity, and in substance, that is, not beaten into froth, the inference would be, that it had passed in after death. With respect to the presence of water in the stomach, it has been proved by many authors to be a constant occurrence; and when it is discovered in this organ, and is identical with that in which the body is found, it furnishes a strong indication of submersion during life, being a necessary consequence of the act of deglutition. For it has been proved by Fine, Orfila, and Marc, that it is never found in bodies plunged into water after death, and cannot be made to enter the stomach without the assistance of a tube passed into the œsophagus.

From the above-mentioned circumstances the following conclusions are drawn by Devergie: 1, that almost all the signs, taken singly, do not prove that the individual was living at the moment of immersion; 2, that the one which furnishes the strongest presumption is the existence of froth placed in immediate contact with the lining membrane of a sound trachea; 3, that this sign acquires a value greater as its situation is nearer to the mouth; 4, that water in the air-passages is a sign of little value, for if it can penetrate the trachea after death, and extend even to the last bronchial ramifications, as Orfila has shown, it becomes almost useless; 5, that water in the stomach is one of the most constant signs, but its value is greatly diminished by the difficulty of proving its identity with the fluid, in which the body has been immersed; 6, that if each sign taken singly gives no certainty, the assemblage of all in the same individual may enable a positive conclusion to be drawn.

The proofs that death occurred before immersion are drawn from the absence of all those signs just enumerated; thus the thorax and abdomen will be found flat — no excoriation of the ends of the fingers — no dirt or sand under the nails — no turgescence of the cerebral vessels — and no froth in the air-passages. The lungs will be collapsed, and the diaphragm will not have passed the natural line. The stomach will be found not to contain any of the fluid in which the body is found, and in addition to these negative proofs, marks of violence may be discovered on the body quite sufficient to account for death. These marks are divided by Foderè into three classes: 1st, those which are totally independent of any connexion with the circumstance of drowning. Of this nature are the usual signs of poisoning; a regularly formed ecchymosis round the neck, indicative of strangulation, or wounds inflicted by fire-arms or cutting instruments. All these lesions have an essentially distinct character which cannot be mistaken, and hence the evident importance of examining carefully the external appearance of all bodies found in water. It was by pursuing such an investigation that Deveaux discovered, in the body of a woman found in water, a penetrating wound under the left breast, made by a very small instrument which had reached her heart. 2dly. Marks of violence which may have resulted from accidents attending submersion, or may be caused by previous homicide, such as unequal, irregular wounds which do not penetrate far into the body, contusions, fractures, and luxations. In all such cases we should ascertain, if possible, the height from which the individual may have fallen, and the resistance he may have encountered in the fall. The rapidity of the current, and the roughness of the banks of a river, may also cause extensive wounds. Dr Fine remarks, that the rapidity of the Rhone, and the numerous mills erected on its side, often produce most shocking wounds in the bodies which are driven against the stakes in the stream, or are drawn into the machinery. 3dly. There may be lesions received after death. These are to be distinguished from those inflicted during life by the lividity and flaccidity of their edges, the absence of tumefaction and redness, and want of hemorrhage, or, if the latter be present, by the fluidity of the blood.

2. It being ascertained that the subject was immersed while living, it is often of importance to be able to say whether the drowning was the result of accident, of suicide, or of homicide. The solution of these questions is to be obtained by an examination of what may be termed the external circumstances of the case. The locality of the water may be such as to account

for the deceased having accidentally fallen into it, or its situation may at once preclude the possibility of such an event. Indications of struggling on the brink, such as tearing of the ground, and many footsteps, together with ecchymoses on the person of the deceased, may lead to the supposition of homicide. Thus, in the case of Mr Taylor, who was murdered at Hornsey in December, 1818, marks of footsteps deep in the ground were discovered near the New River; and on taking out the body, the hands were found clenched, and contained grass which he had torn from the bank.

However conclusive the existence of ligatures on the hands and feet of the deceased may appear,—as to the question of the forcible interference of others, it should be recollected that suicides have sometimes adopted such precautions in order to insure their death. There are some instances on record in which the individuals seemed to have pursued this course. In June, 1816, the body of a guaging-instrument maker, who had been found missing for some days from his home, was discovered floating down the Thames. On being taken out, the wrists were found tied together and made fast to his knees, which were in like manner secured to each other. He had been in a state of mental derangement for two years. The cord with which he had tied himself was recognised as one that had hung from the ceiling over his bed, by which he used to raise himself up, as he had been confined to bed for some weeks. He was a good swimmer, and it was presumed he had taken this precaution to prevent himself from employing that power. The verdict returned was, 'found drowned.' The other instance was that of a man, aged twentyeight, who with a wife and child was reduced to great distress. On a certain day he took an affectionate leave of his family, declaring he would not return until he had procured some employment, by which he should be able to buy bread for them. The following day his body was taken out of the New River with his hands and legs tied. A card with his address was found in his pocket, and also three pence; when he left home he had five pence, and it was supposed he had purchased the cord with the deficient sum; the verdict brought in was, 'insanity.' Another case of a similar nature has been lately published. It was that of a gentleman who was found in the Seine, at Paris, having his feet, wrists and neck tied with a cord. After detailing the appearances on the body, the reporter concludes with the following note: 'Mr X. had bound his neck, limbs and hands by means of a rope with slip-knots, in order to put it out of his power to aid himself when in the water, and thereby to render certain the execution of his suicide.' We mention these cases to show how cautious a medical man should be in forming an opinion in similar instances, and how necessary it is to weigh well every circumstance before he expresses that opinion before a legal tribunal.

It is often, as has been already mentioned, of the highest importance to the survivors, that an approximation to the time that has elapsed since death should be arrived at. For assistance in such an investigation, the medical jurist will turn in vain to the systematic works on legal medicine, it being only within the last few years that any accurate information on the subject was possessed by the profession. We are indebted to M. Devergie for the first essay on this interesting subject, one concerning which the most vague notions were entertained previously to the publication of the memoir alluded to, in the year 1829. The observations of M. Devergie are entitled to much consideration, from the unrivalled opportunity afforded for their formation. He was authorized to carry on his investigations at the establishment called 'La Morgue' in Paris, a building on the banks of the Seine, to which are transported all bodies found dead in the city and its environs, and where they are exposed during three days for the purpose of recognition by their friends. The number thus exhibited exceeds three hundred annually, and includes all manner of violent deaths. In case of the sudden disappearance of an individual, his friends repair to the Morgue, and leave with the porter an accurate description of his person, his clothes, and the period at which he was last seen; and when a body is brought in, it is carefully examined, and if it corresponds with any of the descriptions that have been left, notice to that effect is sent to the persons interested, who come and claim it. The number of persons recognised is very considerable; in the first six months of the year 1829, out of 148 bodies 116 were claimed. Of this number 62 were drowned, of whom 45 were recognised. Being thus furnished with positive information as to the time of immersion and that of finding the body, Devergie was enabled to prosecute his inquiries with great accuracy. He found that in general no change takes place on the exterior before the fourth or fifth day, and the cadaverous rigidity frequently continues two, three, or even four days after immersion. This is probably owing to the coldness of the medium in which the body is placed. About the fourth or fifth day, the skin on the palms of the hands begins to whiten, and this change of color takes place particularly on the ball of the thumb, and the fleshy eminence on the inner side of the palm over the metacarpal bone of the little finger, together with the lateral surfaces of the fingers. The back of the hand does not partake of this coloring, and the rest of the body presents nothing particular. On the sixth or eighth day, the skin at the back of the hand begins to whiten; at the same time that the sole of the foot has acquired a similar tinge: the skin of the face is softened, and of a more faded white than the rest of the body. On the fifteenth day, the face is slightly swollen and red; a greenish spot begins to form on the skin over the middle of the sternum; the hands and feet, with the exception of the dorsum of the latter, are quite white, and the skin of the palm of the hand is wrinkled. The subcutaneous cellular tissue of the thorax is reddish, and the cortical substance of the brain takes on a green color in the upper part of that organ. At one month, the face is reddish brown, the eyelids and lips are green and swollen, the neck is slightly green, and a spot of about six inches in diameter, brown in color and with a green areola, occupies the superior and middle part of the sternum. The scrotum and penis are enormously distended by gas, the latter being sometimes in a state of erection from that cause. The skin of the hands and feet is quite white and very much wrinkled, presenting the appearance of having been long enveloped in a poultice. The hair and nails are still very adherent. The lungs are emphysematous, and fill the cavity of the chest, overlapping the heart, — a condition different from that which these organs present at a more advanced period. At a month and a half, besides the appearances first mentioned, the neck and thorax are found very green, and the cuticle begins to detach itself round the base of the hand where it joins the wrist. At two months, the body is covered with slime, which penetrates through the clothes. The face is enormously swelled and of a brown color, the lips are tumefied and separated so as to expose the teeth. The skin on the middle of the abdomen, as well as that of the arms, forearms, thighs, and legs, is still in a natural state. This is a most remarkable fact, and establishes a striking difference between the progress of putrefaction in water, and when the body is exposed to the atmosphere; in the latter case the abdomen being the first part to manifest any change. At this period the skin has become detached from the hands and feet, and having the nails attached to it, forms as it were a glove. The skin and nails of the feet are longer in separating than those of the hand. The hair begins to fall off, and is easily removed by pulling. The veins are almost completely empty of blood, and commonly distended with gas. The inner surface of the arteries is red, and that of the trachea between the cartilages presents the same color. If at the moment of death the right cavities of the heart were gorged with blood, the internal surface of the ventricle is of a jet black color; and in contrary cases an analogous appearance is presented on the opposite side. Devergie considers this a most important diagnostic mark of death by asphyxia. At two months and a half, the green color of the skin extends to the arms, forearms, and legs; the nails are completely detached from the hands and feet; some adipocire is formed on the cheeks, chin, breasts, arm-pits, and anterior part of the thighs; the abdomen is greatly swollen by putrefaction within: the muscles at this period preserve their natural color, and do not appear altered in texture. At three months and a half, there is observed destruction of the scalp, eye-lids and nose, to such an extent as to make it difficult to tell the age of the individual. The skin of the breast is generally of a greenish brown; the centre of the abdomen is of an opaline color, and scattered with small ulcerations caused by the water. Larger corrosions are found in different parts of the body. The hands and feet are completely naked of skin. The lungs no longer fill the thorax, but leave between them and the pleura costalis a space filled with reddish serum. At four months and a half, occurs complete destruction of the face and scalp, leaving the skull bare; the remains of the face, the neck, and anterior part of the thighs, is entirely converted into adipocire; and small eminences, indicating the commencement of calcareous incrustation, are observed on the prominent parts. The brain presents traces of adipocire in its anterior part. Devergie has not classified the changes that take place at more advanced periods. The paper from which we have extracted the foregoing account has been severely criticised by Orfila, who endeavors to overturn the facts and doctrine contained in it. But we think he has been satisfactorily and triumphantly replied to by Devergie, who adduces as the best proof of the validity of his conclusions, four cases, in which the periods of immersion varying from fifteen days to one, two, and eight months, were ascertained with the help of his table.

As the physiological phenomena observed in persons dead from *hanging* and *strangulation* are nearly the same, we shall consider them together in the present section, pointing out the differences between them as we proceed.

Notwithstanding the authorities of Boerhave, Morgagni, and Portal, who imagined that apoplexy was the immediate cause of death in hanging, it is now generally admitted that the event is owing to suffocation. This opinion is confirmed by the experiments of Gregory and Brodie, from which it appears that if an artificial opening be made into the trachea of an animal, below the ligature by which it is suspended, it will continue to live. But we must admit that other injuries are sometimes inflicted, of themselves sufficient to account for death, such as compression of the nerves of the neck, and fracture or dislocation of the spine. With respect to the former, Dr Paris remarks, 'Although the pressure of a ligature on the nerves of the neck cannot be considered as the immediate cause of death in hanging, yet Mr Brodie has very justly observed that if the animal recovers of the direct consequence of the strangulation, he may probably suffer from the effects of the ligature upon the nerves afterwards. Mr Brodie passed a ligature under the trachea of a guinea-pig, and tied it tight on the back of the neck with a knot: the animal was uneasy, but nevertheless breathed and moved about. At the end of fifteen minutes the ligature was removed; on the following morning, however, it was found dead. On dissection no preternatural appearances, were discovered in the brain, but the lungs were dark and turgid with blood, and presented an appearance similar to that which is observed after the division of the nerves of the eighth pair. 'I do not,' observes Mr Brodie (manuscript notes), 'positively conclude from this experiment that the animal died from an injury to the eighth pair, but I think that such a conclusion is highly probable; and it becomes an object of inquiry whether a patient having recovered from hanging, may not in some instances die afterwards from the injury of the par vagum.'' Fracture or dislocation of the spine, when they do take place, must of course contribute to the speedy death of the individual; but these accidents are very rare, even when the fall is great, as in public executions.

In numerous instances that have come under the observation of the writer, this cause of death was never observed. As in the case of drowning, two questions present themselves for solution by the medical witness: 1, whether the individual was suspended before or after death; 2, whether it was an act of suicide or of murder. An individual found suspended may have been killed in different ways; first, he may be hung up after having been murdered; and again, he may have committed suicide by hanging after having previously tried to destroy himself by other methods, in which he has failed, as by fire-arms, cutting the throat, &c. In the first case we might be led to mistake murder for suicide, and in the second suicide for assassination. It is necessary, then, to be aware of the signs by means of which death by strangulation in general may be distinguished, in whatsoever manner it may happen. These are lividity and distortion of the countenance, protrusion of the eyes, which are frequently suffused with blood, projection and wounding of the tongue by the teeth. The latter depends upon the position of the rope: if it be below the cricoid cartilage, the tongue is pushed out; but if it presses above the thyroid cartilage, it is carried along with the os hyodes backwards. In addition, we have the mark of the cord around the neck forming a livid depressed circle; the fingers usually bent, the nails blue, and the hands nearly closed, with swelling of the chest, shoulders, arms, and hands, and sometimes ecchymoses in these situations; also semi-erection of the penis, and emissio seminis.

Cases of death by hanging occasionally present themselves in which the countenance is pale; this arises from the suddenness of death in some individuals, and particularly if the spine be dislocated. On dissection, the body presents nearly the same appearances as those described as caused by drowning, with the exception of water in the air-passages. A bloody mucus issues from the mouth and nose; but this is very different from the froth of drowned persons. The principal vessels of the head and neck are filled with blood, and sometimes ruptured. With respect to the bruised mark of the rope round the neck, it is stated by M. Klein to be an uncertain sign, — an opinion founded on fifteen cases of suicide by hanging, in all of which it was wanting. Remer of Breslau has more lately investigated this subject on an extended scale, and out of one hundred cases collected by him, eightynine presented the sugillation on the neck in an evident manner. In one case, instead of ecchymosis, the skin was found of a yellowish brown color, like parchment; in two others the skin was excoriated; in another putrefaction prevented any certain examination; and in nine cases it is expressly mentioned that ecchymosis was wanting. It follows from this, that out of one hundred hanged persons, nearly one-tenth were found without a bruised mark. But if this proportion is sufficiently great to induce medical jurists to withhold unlimited confidence in this sign, it is at the same time too small to destroy the validity of the general rule, that such impressions are found in hanged persons. In all the cases that have come under the observation of the writer, the mark of the rope was most distinct. These were all executed criminals, in whom, from the nature of the ligature and the height of the fall, such impressions might be expected; but even in the most unfavorable circumstances the ecchymosis has been strongly marked. Remer mentions that it has taken place notoriously in those found strangled in a position in which either the feet or the knees had not left the ground. In all the instances observed by us, the ecchymosis did not occupy the part of the skin with which the rope was in contact, but formed two lines on either side of it, one above, the other below; while the intervening portion, the part actually compressed by the cord, resembled dark-colored parchment.

[To be continued.]

At a meeting of the Boylston Medical Society of Harvard University, held on the 10th inst. the following gentlemen were elected officers for the ensuing year, viz: —

Marshall S. Perry, M. D. President.
Augustus A. Gould, M. D. Vice President.
Robert T. S. Lowell, A. B. Secretary.
Horace Dupee, Jr. A. B. Treasurer.

Drs. Shattuck, Hayward, Hale, Channing, Z. B. Adams, Ware, and Lewis, Trustees.

The first Boylston prize was awarded to Andrew Denny, A. B. of Leicester, for his dissertation on 'Consumption.'

The second, to Horace Kimball, of Boston, for a dissertation on the 'Organization of the Teeth.'

The Medical Lectures in Harvard University, for this season, were concluded, Wednesday, the 12th instant — and we understand that ten young gentlemen were examined and passed to the privileges of the Doctorati.

COLLECTANEA.

ON A PARTICULAR CLASS OF MUSCULAR MOVEMENTS.

In a Letter from M. Chevreul to M. Ampère.

YOU require of me a description of the experiments I made in 1812, to know whether it be true, as several persons assured me, *that a pendulum, formed of a heavy body and a flexible cord, oscillates when held in the hand over a certain body, though the arm be not moved.* You consider these experiments to possess some importance. On yielding to the reasons which you gave me for publishing them, be it allowed me to say, that I had need of all the dependence which I have in your sagacity, to come to the resolution of placing before the public facts of a description so different from those which I had been hitherto in the habit of submitting to it.

The pendulum I used was an iron ring from a hempen cord: it had been arranged by a person who was very desirous that I should myself verify the phenomenon which displayed itself, when suspended over water from a block of metal or a living being — a phenomenon of which he made me a witness. It was not, I own, without surprise that I beheld it re-produced, when, having myself seized with my right hand the thread of the pendulum, I placed the latter over the mercury of my pneumatic tub, over an anvil, and also over several animals, &c. I concluded from my experiments, that if there was, as they assured me, but a certain number of bodies calculated to produce the oscillations of the pendulum, it might happen that on interposing other bodies between the former and the pendulum when moving, the latter might be stopped. Notwithstanding my previous opinion, my astonishment was great, when, after having taken with my left hand a plate of glass, a cake of resin, &c, and having placed one of these bodies between the mercury and the pendulum which oscillated over it, I perceived the oscillations to diminish in extent, and to be destroyed altogether. They recommenced when the intermediate body was withdrawn, and were again destroyed by the interposition of the same body. This succession of phenomena was repeated a great many times with a very remarkable constancy, whether the intermediate body was held by myself, or by any other person. The more extraordinary these effects appeared to me, the more I felt the necessity of verifying whether they were really foreign to all muscular motion of the arm, as had been stated to me in the most positive manner. This led me to rest the right arm, which held the pendulum, on a wooden support, which I caused to advance at pleasure from the shoulder to the hand, and to return from the hand to the shoulder. I soon remarked that in the former case it decreased in proportion as the support approached nearer to the hand, and that it ceased when the fingers which held the cord were themselves supported; while in the second case, the contrary effect took place. From this I thought it very probable, that a muscular motion which occurred without my knowing it caused the phenomenon, and I could not but attach importance to this consideration, inasmuch as I had some vague recollection of having been in a very peculiar state, when my eyes followed the oscillations described by the pendulum which I held in my hand.

I repeated my experiments, the arm perfectly free, and I was convinced that the recollection just now mentioned was not an illusion, for I clearly perceived that at the same time that my eyes followed the pendulum which oscillated, there was in me a *disposition or tendency to motion*, which, involuntary as it seemed to me, was satisfied in proportion as the pendulum described greater arcs: thence I imagined, that if I repeated the experiments with the eyes covered, the results might be altogether different from those which I observed. This is precisely what happened. While the pendulum oscillated over the mercury, a bandage was placed over my eyes: the motion soon diminished; but though the oscillations were feeble, they did not suffer sensible diminution by the presence of the bodies which appeared to arrest them in my first experiments. Finally, setting out from the moment when the pendulum was at rest, I held it for a quarter of an hour over the mercury without its resuming its motion, and at this time and always, without my knowledge, either the plate of glass or the cake of resin was interposed.

I interpret the phenomena in this way. When I held the pendulum in my hand, a muscular movement of my own, though insensible to myself, caused the pendulum to quit its state of rest, and the oscillations once commenced were soon increased by the influence which the sight exercised in putting me into this particular state *of disposition or tendency to motion.* Now, it must be acknowledged, that this muscular movement, while it is increased by this same disposition, is, however, feeble enough to be arrested; I do not say under the dominion of the will, but when one has merely *the thought of trying if such a thing will arrest it.* There is then an intimate connexion established between the performance of certain motions, and the act of thought relating to it, though this thought may still not be the will which commands muscular motions. It is in this that the phenomena I have described appear to me to be of some interest in physiology, and even in the history of the sciences: they prove how easy it is to take illusions for realities every time that we are engaged in phenomena in which our organs take a part, and that in circumstances which have not been sufficiently analyzed.

Accordingly, let me be confined to make the pendulum oscillate over certain bodies, and to the experiments in which these oscillations were arrested when glass or resin was interposed between the pendulum and the bodies which seemed to cause its motion, and certainly I could have no reason not to believe in the divining wand, or any other thing of the same kind. Now, it will be easily conceived how men of credibility, and otherwise of enlightened minds, are sometimes induced to have recourse to ideas entirely chimerical for the purpose of explaining phenomena which in reality do not spring from the physical world with which we are acquainted.* Once convinced that nothing truly extraordinary existed in the effects which had caused me so much surprise, I found myself in a disposition so different from that in which I was the first time I observed them, that long after, and at different periods, I tried to re-produce them, but always ineffectually.

In calling your testimony to a fact which passed before your eyes twelve years since, I shall prove to my readers that I am not the only person on whom sight has had influence in determining the oscillations of a pendulum held in the hand. You remember, no doubt, that when at your house with General P——, and several other persons, my experiments became one of the subjects of conversation; that the General expressed a desire to know the particulars of them, and that after they were explained to him, he denied not how the influence of sight on the motions of the pendulum was contrary to all his ideas. You recollect that on my proposing to him to perform the experiment himself, he was struck with amazement, when, after having put his left hand on his eyes for some minutes, and then withdrawing, he saw the pendulum which he held in the right hand absolutely motionless, though it was oscillating rapidly at the moment when his eyes had ceased to see it.

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* I can very easily conceive, that a man, whose entire attention is fixed on the motion which a rod that he holds in his hand may assume, by reason of a cause unknown to him, can receive from the slightest circumstance the *tendency to motion* necessary to develope the phenomenon with which he is engaged; for example, if this man is going towards a spring, and if his eyes are not bandaged, the view of the spacious green turf on which he walks may cause in him, without his knowledge, the muscular motion capable of disturbing the rod, by the connexion established between the idea of active vegetation and that of the water.

The preceding facts, and the explanation I have given of them, led me to connect them with others which we may observe every day; by this connexion, the analysis of these becomes at once more simple and more precise than it had been, at the same time that there is formed an aggregate of facts, the general explanation of which is susceptible of considerable extension. But before going farther, let us remember that my observations present two principal circumstances :—

1st. To think that a pendulum held in the hand can move, and that it moves without the individual being at all conscious that the muscular organ impresses on it any impulse: *that is the first fact.*

2dly. To see a pendulum oscillate, and that its oscillations become more extended by the influence of the sight on the muscular organ, and always without there being any consciousness of it : *that is a second fact.*

The tendency to motion caused in us by the sight of a body in motion, is ascertained in several cases ; for example —

1st. When the attention being entirely fixed on a bird flying, on a stone cleaving the air, on the water that flows, the body of the spectator is directed more or less towards the line of motion.

2dly. When a person playing at ball or billiards, following with the eye the moveable body on which he has impressed the motion, he carries his body in the direction which he desires the moving substance to follow, as if it were possible even still for him to direct it to the mark which he wishes it to reach.

When we walk on a slippery plain, every body knows with what readiness we throw ourselves from the side opposite to that to which our body is drawn in consequence of a loss of equilibrium ; but a circumstance less generally known, is, that a tendency to motion manifests itself even when it is impossible for us to move in the direction of this tendency; for example, in a carriage, the fear of being upset inclines you in the direction opposed to that with which you are threatened, and thence there result efforts so much the more painful as the fright and irritability are greater. I think that in ordinary falls, letting one's self fall (*le laisser-tomber*) has less annoyance in it than the effort to prevent the fall. It is in this way I understand the justice of the proverb, 'there is a God for children and for drunkards.'

The fact I have just mentioned naturally leads to the case, where being placed on the summit of a mountain, the breadth of which presents a passage much broader than would be strictly necessary if we were going along the high road, we come all of a sudden to discover the depth of an abyss placed below us ; at the same moment, if I may so say, we throw ourselves irresistibly from the side opposed to the abyss, impelled by the instinct of self-preservation, which struggles against a tendency to move in a contrary direction, caused by the sight of the abyss. This tendency is still more remarkable when we are on a bridge without railing, placed over a precipice ; this precipice, viewed from one side of the bridge, makes you throw yourself towards the opposite side, and puts you in the same state of anxiety as that from which you desired to withdraw yourself. Thus distracted successively in two opposite directions, you become stupified and motionless, if even the excessive fear of falling on the side where you are does not make you encounter the danger of throwing yourself on the opposite side. Such, in the case now before us, is the position of a man who has not been accustomed to walk on a narrow road suspended over an abyss, while the man who has been used to it walks as firmly as on the high road, because that being free from fear, he thinks not of the danger which the former dreads. In fine, the position of the latter might become more critical still, if he were led to discover the depth of the abyss in the case, where following with the eye the flight of a bird, or the throw of a stone, &c, he had already obeyed to a certain degree this tendency which carries us towards a moving body.

The tendency to moving in a certain direction, resulting from the attention given to a certain object, seems to me the primary cause of several phenomena generally referred *to imitation ;* thus, in the case where sight, and even hearing, directs our attention to a person who yawns, the muscular motion of yawning is ordinarily the consequence. I might say the same of the communication of laughing ; and this very example presents, in a very particular manner, a circumstance which seems to me strongly to support the explanation I give of these phenomena ; it is, that laughing, at first weak, may, if prolonged, *become accelerated,* pardon me the expression (as we have seen the oscillation of the pendulum held in the hand increase in extent under the influence of sight,) and laughing, thus *accelerated,* may proceed even to convulsion.

I doubt not but that the sight of certain actions calculated to make a strong impression on our feeble frame, that the recital of these same actions animated by the voice and gesture, or, still more, the knowledge which persons acquire by merely reading them, do incline certain individuals to these same actions, by reason of a tendency to motion which determines them thus mechanically to an act of which they never would have thought without a circumstance foreign to their will, and to which they never would have been led, by what is called *instinct* in animals.

The great actor is he whose gesture, and the movements of whose countenance, corresponds to the movement which the sentiments that he introduces on the stage should excite in the character he represents.

The historical painter, who has studied nature, seizes the position which the originals of the persons he paints should have, when they concurred to the act which the pencil should reproduce.

The great poet is he whose verses awaken in those who hear him emotions corresponding to the actions which he sings; such is the recital of a portion of the Iliad which impelled Alexander to buckle on his arms.

In concluding here the exposition of the facts which appear to me to be connected with my observations, I think it right to make a remark, which is implied in what I have said, but which may escape some reader: it is this, that this tendency to movement, to which I refer the primary cause of a great number of our acts, takes place only when we are in a certain state which is precisely that which magnetizers call *faith*. The existency of this state is perfectly demonstrated by the recital of my experiments; accordingly, as long as I believe in the *possibility* of the motion of the pendulum which I held in my hand, it took place; but after I discovered its cause, it was no longer possible for me to re-produce it. It is because we are not always in the same state that we do not always receive the same impression from the same thing; thus, the yawning of another does not always make us to yawn; laughing is not always communicated from the laugher to his neighbor. The great orator who wishes to impart to the listening crowd the passions that he himself feels, does not arrive at his destination at once: he begins by predisposing his audience, and it is only after he has made himself master of this that he draws forth his strong arguments. The great poet, the great historian, constantly use the same artifice. They first prepare their reader to receive the final impression. Nothing is more curious, in the study of the causes which determine human actions, than the knowledge of the means employed by the merchant, first to call and then to engage the attention of the buyer to the qualities of the object which he wishes him to take; than the knowledge of the means employed by the juggler, in order to draw from the pack such a card rather than any other, or to direct the spectator's attention to some certain thing, for the purpose of distracting it from some other — a distraction without which the juggler could not cause the surprise, which is the final aim of his art. From these considerations it results that professions the most opposite, employ means altogether analogous, though exceedingly varied, to arrive at the same end — that of first securing the attention of the individual, in order afterwards to produce on him a determinate effect.

I think that my observations are connected with the history of the faculty of animals — that there are some of their actions attributed to instinct, which enter into the class of those of which I have spoken. It is particularly in animals which live in groups that it would appears to me to be interesting to study the influence of the chiefs over the subordinate individuals. In fine, do not the facts I have stated throw some light on the cause of the *fascination* which one animal makes another experience?

I think that my observations should also engage the attention of the physiologists, who, like M. Flourens, have examined in a particular manner the animals after the removal of certain parts of the nervous system; it would seem to me to be important to appreciate the influence which the removal of such a one of these parts could effect on the developments of the phenomena which constitute the subject of this letter.

Such are, my friend, the subjects which you have considered may be interesting to persons, who think with us that the course to be followed in physiology is that which has been traced out by the men to whom the natural sciences owe their advancement, and who share in our opinion that there are no positive metaphysics for him who is ignorant of the great truths of the physical and mathematical sciences. The study of the faculties of man is invariably connected, not only with the knowledge of the means which he has employed in order to establish each of the special branches of these same sciences, but the same holds good also with respect to the knowledge of the faculties of animals. Before seeking to draw up a general system of philosophy, we must collect as large a number, as is possible, of groups of analogous facts; and besides, it is necessary that the facts of each group be previously examined into with particular study.

E. Chevreul.

Bony Union in Fractures of the Patella.

To the Editor of the Lancet

Sir,— In the number for August 24th, of your very valuable publication, under the head of ' Fractures of the Patella,' treated at Guy's Hospital, I find the following observations:— ' It is, of course, known to all medical men, that no case has yet been related in which osseous union has taken place in this kind of injury, ligament being invariably the intervening bond of union between the fractured portions of bone.'

Mr B. Cooper has also endeavored to explain why that should so invariably be the case, — satisfactorily I cannot add. That this mode of union, in every instance, does take place, is to me very questionable, for I have certainly seen more than one case in which union by bone under proper treatment has been effected. I shall now quote what Mr Lawrence has said in his Surgical Lectures on this subject and relate briefly a case I lately met with in illustration. Mr Lawrence says, ' The circumstance of the fracture of the patella not uniting by bone, seems to arise simply from the two fragments not being brought closely together. I fancy there is nothing in the situation or structure of the patella that in itself would render the bony union impossible. The only peculiarity that we can observe here, is, that we do not generally succeed in bringing the broken extremities of the bone into actual contact. In fact, to show that bony union may occur, it is only necessary to mention, that in some rare instances the patella *has been* united by bone. There is an instance mentioned by Boyer, &c, &c.' How we are to reconcile this with the foregoing statement it is unnecessary for me to say.

About a fortnight since, on visiting St Thomas's Hospital, I saw a case of transverse fracture of the patella in a very stout, strong sailor, which had occurred more than two years ago, in which the union was so perfect, that it was difficult to ascertain where the fracture had existed. The motions of the joint were, I may say, perfect. There was no lameness, and the only perceptible difference was, as in the following case, related in support of Mr Lawrence's remarks, that the patella appeared to be slightly elongated. Mr Travers examined the case and was of opinion, that bony union had here taken place.

A gentleman who had formerly been surgeon of the E. I. C.'s ship *Bridgewater*, on board which the injury happened, and under whose care the man had been, informed me, that the plan of treatment acted upon differed from that usually employed, in one very particular point, viz. position. Now in all surgical works that I have seen, especial attention in the treatment of transverse fractures of the patella is directed towards relaxing the muscles attached to that bone ; and many directions are given to produce this effect, but no where do I find any passage (except in S. Cooper's ' Dictionary ') in which placing the patient sitting upright, with the leg extended, is even alluded to. It appears to me that by placing the patient in this position every indication is answered. The muscles attached to the bone are completely relaxed by it, and the slightest force applied to the upper fragment will keep it steadily fixed, and pressing on the lower

In the above case the man was kept sitting upright in bed for nine weeks, with a splint and pillow under the whole length of limb; but from the severe inflammatory action consequent on the injury, no pressure could be applied to the upper fragment before the expiration of five weeks, at which time no union had taken place; a stout knee-cap made of canvass, was then applied, so contrived as to be daily tightened by lacing the two portions together, when any degree of pressure might be made on the broken surfaces; and at the expiration of the above time, perfect union was produced.

May we not conclude, that if the above treatment produced so complete and perfect a union in one instance, if more generally employed, cases of bony union of the patella would by no means be uncommon. The inconvenience would certainly not be greater than that to which patients are now subjected in the common mode of treatment, where in the greater number of instances only ligamentous union is produced, and some imperfection in the motions of the joint left.

I have since seen another case treated by the same gentleman, with a similar result.

I am, Sir, your humble servant,
Francis Ward, M. R. C. S. L.
Balham Hill, Surrey, Aug. 27, 1833.

DEPOSITION OF FAT IN THE HEART OF A DRUNKARD; AND AUTOPSY.

Elizabeth Clarke, aged 54, admitted into Mary's Ward, June 20; was a patient in the hospital a month, during which time she presented no marked symptoms, lying usually in a semi-comatose state; she had been in the habit of drinking freely of spirits, frequently to the amount of a *pint and a half of gin daily*.

Post-mortem Examination. — Brain small, and very pale. The lungs appeared shrivelled within the chest, but free from any adhesions. The heart, especially on the right side, was loaded with fat, being in some situations nearly an inch in thickness; fat was also deposited between the muscular fibres; in the right ventricle the adipose tissue was in much greater proportion than the muscular. The left ventricle was hypertrophied, without any increase of capacity: the bicuspid valve was thickened, and the aortic valves contained some bony deposit, sufficient to impede their function. A small cellular band, half an inch in length, extended from the apex of the heart to the loose pericardium. The liver was small, without any change of structure. The left ovary contained an ounce of serum in a cyst. The other viscera were natural. — *Lancet.*

CONCLUDING REMARKS OF DR ELLIOTSON TO HIS MEDICAL CLASS.

But there are two things which I am particularly anxious to impress upon you, and these are — that *in your profession you will never lose sight of its real delight* — that you will never become *mere* practitioners, going about to see your patients and ordering medicines just as a baker goes distributing loaves round a parish, but that you will consider it a source of true intellectual delight. There is hardly a case that occurs that may not afford you an intellectual exercise, and enable you to advance your own knowledge a little. Very few practitioners, I am sure, pass six months in the year without having an opportunity of advancing, not only their own knowledge, but adding to the general stock. If you become mere dull, routine practitioners, I shall indeed be extremely sorry. I trust you will always consider, that although you enter the profession for the purpose of gaining a livelihood, yet happily in our pursuits there is an infinitely greater delight than this — that we have the means of leading the lives of philosophers — of using our intellect and improving science, which cannot be said of a large number of occupations to which men are unfortunately destined.

The other point to which I wish to direct your attention is, *to avoid everything that can bring the profession into disgrace.* We all witness medical squabbles, and I think nothing can be more contemptible than personal jealousies carried on so unfortunately as we often see them. When you are in practice, never give an opinion upon any case unless it is in your own hands. When a case is under the care of another individual, never should an opinion be given upon it, unless it be to corroborate what he has said, and establish him in the estimation of the patient. If you see a man treating a patient in a disgraceful manner, that is another case; but even then it is much better to see the individual himself than to make any disturbance about it. When you are attending with another practitioner, nothing should be done to lower him in the opinion of the patient. It is right, if you can, always to express your coincidence of sentiment with a brother practitioner; and if you differ from him, you should not let the patient know it, but argue the point in private. Never say anything to make a patient think you could have treated him better than your predecessor. If it so happen that a medical man should ill treat you, (and we must all expect to meet with that,) it is best to keep the matter quiet; because if you complain of being wronged, the world will only shake their heads and significantly say, 'two of a trade — two of a trade,' and you will gain nothing by it. When your conscience satisfies you that you are the injured person, it is best to learn to pass things over, and avoid as much as possible any appearance of a medical squabble to the world.

I will not pretend to lamentation and grief at parting with you, because I shall have to part with some every year, and I must reserve my tears and lamentations for more serious occasions. I feel the greatest obligation to you for the kindness with which you have listened to me, and I owe you an apology for having frequently been late, but I assure you it was unavoidable. In fine, I can only say, that on any occasion on which I can be of use to you, it will afford me the greatest pleasure.

CHLORIC ETHER — NEW REMEDY IN SPASMODIC ASTHMA.

I may here take the opportunity of mentioning, that there is another article brought into medical use by our American brethren, which promises to be of service in spasmodic asthma, and in adynamic states of the nervous system, with or without fever ; not forgetting that it is one of the most agreeable and diffusive cordials we can make use of. It is one of the new products of the chemical kingdom, called *chloric ether*, resulting from one of the many combinations in which the simple elements of ether are disposed to unite with different proportionals of chlorine. It may be easily procured for medical use by distilling over, in a glass retort with a long neck kept very cool, dry chloride of lime fully saturated and covered over with alcohol. The liquid thus driven over is a solution of a new substance, the chloride of carbon in alcohol. It is perfectly limpid and pure, having a fragrant ethereal smell, with a faint yet pleasant perception of chlorine. Its most sensible property is, however, its delightfully *sweet* and vinous taste, and when diluted with water, forms one of the finest cordials in any materia medica.

I have used it frequently in doses of about half a drachm, according to its strength, and from my short experience I am disposed to think it will be of more positive benefit than any of the muriatic or sulphuric ethers, and well worthy the attention of the medical practitioners of this country.— *Dr Black to the Editor of the Medical Gazette.*

BRONCHOCELE.

Dr Beck commences his essay by expressing his dissent from the opinion of Muihlibach, who has ventured to assert that the surgical knife can rarely afford relief in cases of bronchocele. On the contrary, says our author, cases which do not admit of an operation form but a slender minority: among these exceptions are those bronchoceles which are intimately connected with the subjacent parts, or which consist chiefly of a solid substance, and involve the greatest part of the thyroid gland. The superior thyroid artery has been successfully tied by Walther and others in cases of bronchocele caused by primary enlargement of vessels; Hedenus, Gräfe, and Mandt, have extirpated large bronchoceles; and the successful employment of the seton has been revived by Quadri: all showing that, in the very cases in which medicines are useless, and the system is in the highest degree disturbed by the disease, surgical treatment can afford the most perfect relief. 'I can myself,' says our author, 'give a voucher from my own experience for the favorable result of tying the superior thyroid artery, which I had an opportunity of witnessing last summer, in my clinical practice. Practical communications concerning this operation,' continues Dr Beck, 'are still to be desired, as the number of persons on whom it is known to have been performed is still too small to give a satisfactory result in an empirical manner, by combining the cases.

'Case. M. W., a woman, aged twentytwo, had suffered several years from a *struma*, covering chiefly the right side of the neck. The tumor caused many disagreeable symptoms, which were heightened by its gradual increase. A number of remedies, which are of efficacy against goître, were administered, but without advantage. The swelling, which was warm to the touch, was firm, tense, and somewhat uneven in its lower part. The vascular condition of its superficies could be seen and felt. That the arterial branches entering the tumor were enlarged could be ascertained from the pulsation, which was felt almost throughout it, and from the troublesome throbbing in the tumor of which the patient herself was sensible. She suffered from confusion of the head, dyspnœa, and dysphagia; and, in addition to these local disorders, there was great and general irritability of the vascular system, and inclination to a state of congestion. Yet, with the exception of the enlargement of the superior thyroid artery, and its branches, no disorganization of the vascular system could be perceived. These appearances demonstrated the existence of a *struma aneurysmatica;* nor could we help observing that a change had taken place in the lower cells of the gland, by their being enlarged, and filled with a diseased secretion.

'After the administration of some cooling evacuants, the superior thyroid artery was tied in the clinical ward, on the 2d of July, 1832. An incision was made through the skin and the platysma myoides, at the inner edge of the sternocleido-mastoideus, between the os hyoides and the thyroid cartilage. The artery, which was much enlarged, was then isolated, and tied with a simple loop.

I may remark, that I was obliged to enlarge the incision at its upper angle, as a branch took its origin from the artery at the exact spot where I had begun to isolate it. Professor Schwörer had the kindness to assist me in the operation. As soon as the ligature had been fixed, the part of the artery in the direction of the gland sank down, the pulsation at this part ceased, nor could any be felt in the tumor, or in the numerous branches passing over its superficies. The tumor lost its turgescence and was somewhat diminished in circumference, immediately after the operation, as was ascertained by measuring it. The edges of the wound were brought together, and the tumor covered with ice. The application of cold was continued, even after the ligature came away, which happened on the ninth day. The treatment was antiphlogistic, and the patient was kept quiet, with her head turned towards the affected side. On the second day an inflammatory fever set in, with a coated tongue and increase of the difficulty of swallowing and breathing; but, although the general circulation was much more tumultuous, the extended pulsation of the bronchocele did not recur. On the sixth day after the operation, the uneasy feelings of the patient began to diminish.

'I have merely to remark, in conclusion, that in the third week after the operation, a considerable diminution of the tumor could be perceived, especially in the upper part. In six weeks the tumor was reduced to a third of its previous size, the chief decrease being in its upper part, and less alteration in proportion having taken place in the more indurated part below; yet even here the circumference of the neck was an inch less. The tumor had entirely lost its tension, and was even flaccid. The unpleasant symptoms, of which the patient had formerly complained, no longer existed; but Æthiop's antimonial and burnt sponge were exhibited on account of the strumous spot at the lower part of the gland.'

If we wish to make a proper estimate of this operation in cases of *Struma aneurysmatica*, we must first consider the dangerous condition of the patient for some time after the operation, and then how far it is capable of effecting a cure. Fatal secondary hemorrhages have been frequent in proportion to the small number of cases in which the operation has been performed, which must proceed from some especial cause. In Langenbeck's case, indeed, the hemorrhage obviously depended on the unusual origin and course of the artery tied; for there was no external carotid, but the superior thyroid artery (which was curved) gave off the branches which generally arise from the external carotid. The ligature lay between the place where these branches were given off and the gland. The branches which were given off from the artery, close upon the ligature, prevented the cicatrix holding, when the ligature came away. Dr Beck's colleague, Buchegger, has several times observed a similar irregularity, namely, that the lingual artery is given off by the superior thyroid, near its origin.

After some observations on the diagnosis of the *Struma cystica* from the *Struma lymphatica,* and other similar affections, Dr Beck remarks that Meckel mentions the occurrence of fungus hæmatodes of the thyroid gland, and then gives a case in which he believes this disease to have existed, though he had no opportunity of verifying his opinion by a post-mortem examination. The patient, a man of fifty, who had often suffered from pains in his limbs, was cachectic and feverish. The tumor was large, and covered with irregular prominences, one of which had opened two months before, and blood and a blackish brown fluid issued forth. A fungus soon made its appearance through this opening, which was nearly round, and its edges covered with a thin membrane. The patient returned to his place of residence, and Dr Beck was informed of his death, which took place six weeks afterwards, by the physician to whom he had recommended him.

Dr Beck disapproves of the seton as a means of curing bronchocele, and gives a case in which he employed it ten years ago, and its use was followed by fatal tetanus.

In the appendix our author gives another interesting case. The patient, a countryman, aged twentynine, entered the clinical ward, December 8th, 1832, suffering from a bronchocele of enormous size. The tumor on the left side ascended as high as the ear, and descended under the clavicle into the cavity of the thorax. An operation was quite out of the question, and the unhappy patient died suddenly of suffocation, on the tenth day after his admission.

The post-mortem appearances are given by our author with German fidelity and minuteness, but are far too long to quote here. The chief point in the *struma* was, that great part of it consisted of a substance like brain that is nearly putrid. The principal morbid appearances in other parts of the body were, the scar of an old ulcer in the lungs, and a double pelvis (with a double ureter) in the right kidney. — *Med. Quarterly Review.*

OPERATION FOR HERNIA WITHOUT OPENING THE SAC.

'A prominent character of the operation, and one that raises it above many of the objections that have been brought against it, is, that should the attempt to execute it fail, either from want of dexterity on the part of the operator, or from any peculiar difficulty in the case, the operation can be completed in the ordinary way, by laying the sac open. A surgeon may possibly find great and insuperable difficulty in dividing the stricture, externally to the sac; or, having divided the stricture, he may be unable, by the best directed efforts, to return the contents of the hernial tumor: in such a case, he has not brought himself into any dilemma by his unsuccessful attempt; the operation may proceed, as if it had not been made; and neither patient nor surgeon are in a worse position than if the sac had been opened in the first instance, without the attempt to preserve it entire. It is no slight recommendation of the operation, that its failure involves the surgeon in no embarrassment, but leaves him at liberty to adopt the old mode of operation.

'But an intermediate line of proceeding remains for his choice, between the division of the stricture on the outside of the sac, and the laying the latter open in the usual way, so as to expose its contents; namely, the operation, as recommended and practised by Monro, in his fourth case, of making an opening into the sac below the stricture, introducing a director into the opening, conveying it under the stricture, and dividing the latter upon it. Such a proceeding diminishes the danger of inflammation, by less freely exposing the surface of the intestine; and in a simple case of recent enterocele, strangulated, appears to be free from objection. An unusual degree of tightness in the stricture at the inner ring, in inguinal hernia, rendering it impossible to divide the tendon without wounding the neck of the sac, or a thickening of the neck of the sac in femoral hernia, might render this modification of the operation expedient, and perhaps these are the only cases in which it can be considered to be strictly necessary, or indeed to possess any decided advantages. If the stricture could not be relieved without passing the bistoury within the neck of the sac, the operation would be preferable to the more free incision of the sac; but it would not render the return of the contents of the sac more easy than if the stricture were divided on the outside of the peritoneum. It also equally conceals from examination the state of the intestine and omentum, and precludes the possibility of knowing whether they are in a condition to be returned into the abdomen. To these latter objections it is equally liable with the external division of the stricture.'

A few pages farther on he adds :

'I need not again urge the main benefit derived from the external division of the stricture, in the non-exposure of the patient to those causes of inflammation to which the ordinary operation subjects him, and, as experience frequently proves, with most unhappy consequences. The exposure of a bowel in a state of incipient or active inflammation, the handling it in this susceptible state ; the incision made into a peritoneal bag already disposed to, if not in an actual state of inflammation, are, as every surgeon will admit, and as his forcible efforts to reduce the hernia without the knife prove that he feels them to be, dangers of no ordinary magnitude to a patient laboring under a strangulated intestine. I do not feel that I have exaggerated the risk of inflammation ; for frequently enteritis comes on when, at the time of the operation, the bowel appears to be healthy, and the abdomen free from tenderness ; and, when general inflammation precedes the operation, the release of the intestine by the knife rarely succeeds in checking it.

'Cases are sometimes met with in which the patient appears to be doing well after the operation, the evacuations being free and natural, and sickness and pain subsiding ; but, after the lapse of two or three days, the powers begin to sink ; the abdomen, though not very tense, is uneasy under the pressure, the pulse small and quick, and the tongue becomes dry and coated. This condition is perhaps protracted for several days, and the patient at length dies. A post-mortem inspection discovers the cause of death in the dark color and lacerable condition of the strangulated portion of bowel, and the vascular state of the surrounding parts.

'This unexpected termination of a case, when it does occur, usually takes place in patients of enfeebled constitution, whose powers are unequal to the restoration of the healthy circulation in the strangulated bowel after its release from the stricture ; and in whom, therefore, a slight degree of inflammation gradually ends in the extinction of its vitality. At the period of the operation the intestine, when exposed, presents none of the usual indications of present or approaching gangrene ; no infiltration of its tissues, no discoloration beyond that which retarded circulation in a healthy bowel produces, no lack of peritoneal lustre, and no lacerability of texture ; it in no point appears to differ from those cases of strangulation in which an early operation is had recourse to before severe symptoms come on, and in which a favorable prognosis is verified by a rapid convalescence. Exposure of a portion of bowel possessing such feeble powers of resistance to morbid influence cannot but tend to increase, probably to excite, a disposition to inflammation ; which, though low in degree, is sufficient to destroy its vitality; and it may therefore be fairly regarded as the main agent in the production of gangrene.

'In cases in which great depression of the powers are observed to precede the operation, death sometimes rapidly takes place without any other obvious cause than the exposure of the bowel. The condition of the patient is often found to be manifestly worse after the operation, and stimulants are obliged to be plentifully administered, in order to sustain the sinking powers of life. This may happen without inflammation of the abdominal cavity, or gangrene of the bowel, and is attributable solely to the depressing effect of the operation.' — ***Mr Key.***

TREATMENT OF PERMANENT STRICTURE.

In the first place, I must state that permanent stricture is very frequently supposed to exist when it does not, and that the means employed to relieve the supposed stricture frequently create a permanent disease. Very often have I seen young men who have supposed themselves to be the subjects of permanent stricture, from having read or heard accounts of the disease, and perhaps having been subject to gonorrhœa, which is so generally considered as the exciting cause. During the existence of gonorrhœa, either in the acute or chronic form, and even for a short time after the subsidence of all discharge, I grant that symptoms of permanent stricture may, and very frequently do exist; for, during the continuance of such disease, the portion of the mucous membrane from which the morbid secretion is poured out is somewhat thickened, and has its vascularity and sensibility increased; and even a trifling thickening of the membrane, in so small a canal as the urethra, must produce some alteration in the stream of urine; whilst, from sympathy of the bladder, there exists a more frequent desire to pass the urine. These symptoms also may exist when the discharge has subsided; for the membrane does not immediately recover its natural condition, nor does the sympathetic affection of the bladder immediately cease.

In my opinion, there are very few of these cases but would recover, unless for the interference of the surgeon. If we take a man in good health, and with sound urethra, and we introduce a bougie into the urethra with some little force, the progress of the bougie will be impeded, usually when it has passed to about the extent of six inches, or to that portion of the canal surrounded by the muscle; and, if force still be employed, the resistance becomes greater, and the membrane may be lacerated.

The impediment arises from spasmodic contraction of the accelerator muscle, in consequence of the irritation of the mucous membrane by the bougie. If this will take place in the healthy urethra, (which I have ascertained by experiment,) how much more would it be likely to occur at a time when the membrane must be in a state of irritability. When therefore a patient is suffering from gonorrhœa or gleet, or is just recovered from such disease, but has slight symptoms of permanent stricture, if he unfortunately applies to a surgeon who is fond of the use of the bougie or sound, he is very likely to have some injury inflicted in the portion of the canal subject to spasm, which may give rise to permanent disease. One of my medical friends, during the period of his pupilage, after hearing a lecture on strictures, fancied himself to be the subject of the disease, and consulted a surgeon fond of the use of instruments. A moderate sized bougie was introduced into his bladder without much difficulty; but the surgeon, not content with this, said that he must introduce a larger instrument before he could be satisfied. He accordingly endeavored to pass a large sound; but, after repeated trials, and causing severe hemorrhage, he was obliged to desist. The patient had not previously been the subject of any urethral affection whatever, but has almost constantly been a sufferer since, during a period of more than twentyfive years.

I could relate many cases which have come under my own observation, in which instruments have been used when no stricture existed, and several in which the forcible use of the instrument has created formidable disease. Supposing the symptoms of permanent stricture to be decidedly developed, it is the duty of the surgeon to make an examination of the canal with the utmost caution and care; and the best instrument to effect this is the common wax bougie, which should be perfectly smooth and rendered moderately flexible by holding it in the hand for a short time; it should be smeared with sweet oil, and slightly curved towards the extremity which is to be introduced into the passage; in introducing it, (supposing the patient erect, and standing with his back against the wall of the apartment,) the penis should be drawn forwards, and somewhat upwards with the left hand, to put it on the stretch and bring it on the same plane as the perinæum. The point of the bougie being introduced into the urethra, it should be very gradually pushed on; the convexity of the curve (previously given to the instrument) being kept against the under part of the urethra, so that the point, as the bougie is carried on, passes along the superior part of the urethra. If any impediment arise, the surgeon should direct the point laterally or downwards, by slightly rotating the instrument between the finger and thumb, and, if he then find that he cannot pass it further, he should wait a few seconds, and then make a second attempt in the same way.

When the obstruction arises from permanent stricture, there is usually a sensation as if the point of the instrument struck against some hardened substance, and the bougie can be retracted with ease, but, when the obstruction is occasioned by spasm, the same sensation is not communicated to the surgeon, and the point of the instrument is grasped, so that it cannot be retracted without some force. Further, when the impediment proceeds from the existence of permanent stricture, the application of force is not productive of much suffering; whilst, in the case of spasm, the suffering is usually severe. In the first instance the impediment is not lessened by allowing the patient to rest; but, in the second, if gentle pressure be continued, the obstruction usually ceases.

It is best, in my opinion, to make the examination first with a bougie of moderate size, but if the first examination convinces the surgeon that permanent stricture exists, which prevents the passage of the instrument, he should select one of smaller size to enable him to pass the seat of stricture without violence. As the thickening which causes the stricture is most frequently partial, the course of the canal at the seat of disease generally deviates from the direct course, and it requires therefore a little manœuvring on the part of the surgeon to find its direction. It is not uncommon, when the contraction of the passage is considerable and irregular, for the surgeon to succeed in passing an instrument at one time with facility, and at another time to be altogether frustrated in his endeavor to do so. This may frequently be obviated by carefully observing the curve which the instrument has acquired in its introduction, and by giving a similar curve to any new instrument which may be employed.

When the first examination is made, if the surgeon finds the urethra to be exceedingly tender, and that the hemorrhage occurs from the use of very slight force, he should not repeat his examination, but should adopt such local and general means as he may deem advisable to correct such condition of the part. I have generally found it in connexion with debility and morbid nervous excitement, requiring careful dietetic means, with the administration of tonics and narcotics generally, and local blood-letting by leeches, with evaporating lotions or fomentations. I am satisfied that no good can result from the continuance of mechanical interference under these circumstances, but that the mischief may be greatly augmented.

In the ordinary cases of permanent stricture, where the callous induration exists, many surgeons employ and recommend the use of metallic instruments in the outset of the treatment; such practice, even in the hands of the experienced surgeon, I consider to be attended with great risk; but, with the young and inexperienced surgeon, it is pregnant with the greatest danger. If the stricture be of very trifling extent, it may be sometimes rapidly subdued by such means; but, when it occupies a space of more than an eighth or a quarter of an inch, I am confident that more evil than good results from the practice. The diseased portion of the canal is, as I have observed, usually more resisting than the healthy part; and if much force be employed, the healthy structure gives way, and the mischief thereby becomes extended. But this is not the only evil; for the urine may escape by the lacerated opening into the surrounding cellular tissue in small quantity, producing subsequent inflammation and suppuration, or to a great extent, so as to distend the cellular membrane, of the perineum, scrotum, &c, and occasion sloughing, or such extensive disease as may be followed by great loss of structure; or, by creating constitutional disturbance, destroy life. I wish it to be distinctly understood that I am not here speaking theoretically but practically, having often witnessed the distressing and dreadful facts which I have described. My own practice is, cautiously to find my way through the stricture, at first with the common wax bougie, which I have made slightly conical at the extremity, to be passed into the urethra, and I persevere in the use of such instruments until I can pass one of moderate size with facility; when I resort to the use of the gum elastic bougie, which offers more resistance, or to the sound. I prefer, however, the former. I do not consider either of them to be applicable to the early treatment of the disease.

I have not yet sufficiently tried the plan recommended by the Baron Dupuytren, of retaining a full-sized bougie in contact with the stricture for many hours together, to be able to speak confidently respecting it; but I am induced to believe that, when the stricture is not very extensive, it is likely to be serviceable; at all events, it cannot produce much mischief. I object to the use of caustic, or of the division of the stricture by a stilette, for the same reasons that I object to the sound; namely, the risk of perforating the wall of the canal, so as to allow of extravasation of urine.

Mr Tyrrell.

ON DISSECTING AND PREPARING ANIMALS FOR COLLECTIONS. BY PROFESSOR CARUS OF DRESDEN.

Though the art of anatomising the bodies of animals is essentially the same as that practised upon the body of man, and though want of space precludes me from treating the subject minutely, I conceive that a few remarks may not be altogether unacceptible to those who feel desirous of pursuing such studies for themselves.

The first thing that I have to observe is, that all dissections of small and soft objects, such as worms, zoophytes, insects, mollusca, and embryos, where it is desirable to obtain even tolerably accurate results, should be performed under water, by which the parts are kept floating and separated from each other, and consequently present themselves more distinctly.

A very simple contrivance for investigations of this kind may be prepared in the following manner : A mass of tough wax (not too soft) is to be laid upon one or more porcelain saucers or capsules of different sizes, which are then to be put in a warm place until the wax melts so as to cover the surface evenly to the depth of a half or a third of an inch. If the object to be examined be laid upon this surface, it may be fixed by needles in any position that is wished, and, when covered with clear water, developed and dissected by means of suitable instruments. Of these the best are very delicate forceps ; pointed, well-made, sharp-cutting scissors; and small knives, like cataract needles, some round, others with cutting edges, and fixed in slender wooden handles. For separating parts I have also employed small horn probes and fine brushes; whilst, for examining them, a good magnifying glass is frequently indispensable. If it is wished to preserve a preparation thus made, wax, colored at pleasure as for the purpose of injections, is to be formed into little tablets about one-fourth of an inch thick ; one of these is then to be placed upon the saucer or capsule containing the preparation, the latter may then be transferred to it, arranged suitably upon it, fixed there by means of short needles, and both together then placed in alcohol. Nor must I forget to mention, that the examination of very delicate organizations may frequently be conducted with greater facility and accuracy if the object be previously allowed to remain some time in spirit, and thereby to become harder and contracted. This applies particularly to the dissection of nervous organs, and to the examination of very small embryos, of mollusca and worms. There are various methods of destroying worms, insects, mollusca, &c, for the purpose of dissecting, without injuring their organization . mollusca, snails, for instance, as Swammerdam has remarked, are to be allowed to die in water, because by that means their body swells, and all the parts become more distinctly visible ; they may be afterwards kept in spirit (though not too long) for dissection. Worms, the larger zoophytes, (for the smaller must be examined while alive,) caterpillars, &c, and also the smaller amphibia and fishes, are best destroyed by means of spirit ; insects, on the contrary, by being dipped rapidly in boiling water, or in oil of turpentine. As regards the dissection of larger animals, we may here use with advantage knives of a larger size ; and, instead of forceps, suitable hooks with handles.

In animals of considerable size we can generally make artificial skeletons only after the bones have been sufficiently cleaned by boiling or maceration. In smaller animals, on the contrary, such as birds, amphibia, and fishes, of which last it is very difficult to make good skeletons, the object will be best accomplished by at once making the bones as clean as possible without injuring the capsular ligaments, soaking the preparation in water that is incessantly changed ; and lastly, bleaching it for some time in the sun. Lastly, we may mention injections as affording a very essential assistance in zootomical investigations for physiological purposes. In small animals, and in the most minute parts, these must consist of compositions with wax, very fluid and colored ; best of all of mercury. The latter, however, is not suitable for very soft bodies, such as medusæ, &c, in which cases we may employ injections of colored milk, and similar substances.— *Translated by Mr Gore, of Bath, in the Field Naturalist's Magazine, No. II.*

Eroto-Mania.

Dr Davis enters into the consideration of eroto-mania, which he distinguishes, and very properly, from nympho-mania. In the former there may exist no excessive libidinous propensity; in the latter it is indispensable. A long, but a characteristic case of eroto-mania is related by Dr Davis ; we cannot afford space for it, but many are to be found in the works of Esquirol and others.

It is difficult to say where the passion of love ends and mania begins. A female, for instance, disappointed in an attachment, refuses all intercourse with her family and the world, rejects food and medicine, and in a short time dies. Another commits suicide. A third becomes maniacal. A fourth is attacked with nympho-mania. We leave those who can, to decide what are and what are not the legitimate effects of unrequited or unhappy passion, and what the result of disease. Certain it is that a female may die of love, who evinces no other symptom of mania — that eroto-mania may exist independent of inordinate desires — and that mympho-mania is not necessarily attended with any perceptible aberration of intellect. On the other hand, it is equally certain that the barriers between these states are not always evident.

We proceed to a consideration of no mean importance, the treatment of the disease. This is clearly divisible into two portions — the moral and the physical. Dr Davis divides it into that of the sentiment and that of the sexual passion. We confess that the distinction does not appear so obvious to us as to its author, and we find it difficult to reduce his cases and his doctrines into a very consistent epitome. He commences with the treatment of disappointed love, and as we have no other nor better to offer, we subjoin a sketch of the Doctor's.

He observes that one of the earliest and most prominent effects is a loss of the power of sleeping, and great cerebral excitement. As the lover cannot be procured, a substitute must be discovered, and that is opium. Nothing less than from two to three grains, or an equivalent quantity of the other forms should be prescribed, and a third or a fourth of this should be continued every four or five hours till sleep is procured. In most cases of preternatural cerebral excitement, it should be made a question whether the abstraction of fifteen to thirty ounces of blood should not precede the exhibition of opium. As a good accompaniment to opium, a pretty ample dose of calomel or blue-pill may, in many cases, be added. Such is the Doctor's methodus medendi. We fear that a phyician is generally at a discount in these affairs.—*Med. Chir. Rev.*

TREATMENT OF BURNS.

The treatment of burns and scalds recommended by Dr M'Farlane is this—when the cuticle is extensively vesicated, and the surrounding integuments inflamed, the immediate application of finely carded cotton, the vesications having been previously punctured. Several layers of the cotton should be applied, and retained in close contact by means of a roller. Two cases are related, illustrative of the good effects of this treatment in superficial burns, in which Dr M'F. observes that its advantages are most conspicuous. Dr M'F. however has found it very effectual in cases where the disorganization is deeper.

'In three cases of simple vesicated burns, the application of carded cotton, soon after the injury, was productive of such acute and continued pain, that it had to be removed, and a different remedy employed. In two cases of superficial burns, where the cutis vera was in a state of ash-grey ulceration, and the surrounding integuments presented a bright red color, the local and constitutional excitement was so great, as to render the discontinuance of this application absolutely necessary. In four cases, during warm weather, the discharge was so profuse, the fetor so intolerable, and the generation of maggots so abundant and annoying, as to require a daily change of the dressing ; and besides these incoveniences, the health of the patients became greatly impaired, the appetite diminished, and in one of the cases, incessant vomiting and diarrhœa were excited. When these untoward circumstances manifest themselves, and especially when the injury is confined to the limbs, I have found the application of a solution of the chloride of lime exceedingly beneficial. In one case, where the front of the chest and abdomen was scalded with boiling water, lint, moistened in a solution of the chloride (containing gr. ij. of the salt to an ounce of water) was applied and kept wet for ten days before it was removed, when nearly two-thirds of the abraded surface were cicatrized. The second dressing was removed four days after, when the cure was complete ; acute pleuritis however occurred, and required free bleeding, purging, and the use of emetic tartar in solution. In another case, both lower extremities were scorched by the clothes catching fire ; and, of course, the injury extended deeper than in the former one. The same treatment was pursued, although, from the nature and situation of the injury, and the advanced age of the patient (fiftynine years,) the cure was more protracted. The first dressing was removed on the twelfth day, when the greater part of the leathery slough, produced by the destruction of the cellular texture, was found separated, exposing a florid granulating surface. The lotion was re-applied, and continued nearly three weeks longer, before cicatrization was completed.

Instead of removing the dressings daily, and thus exposing an extensive and inflamed surface to various sources of irritation, they are allowed to remain for several days, care being taken to keep the parts constantly moist, by the assiduous application of the lotion. The injured parts are thus preserved in a state of perfect quiescence, and all external interruptions to the healing process are avoided. Before the lotion is applied, if the vesications are large and tense, it is necessary to evacuate the serum by a number of small punctures, allowing the detached cuticle to remain, which forms a useful covering to the tender surface, and does not interfere with the subsequent cicitrization. Should the burn be extensive, and confined to the trunk of the body, the constant retention of wet dressings has sometimes chilled the patient, and given rise to internal inflammation ; in such cases, the cotton is the preferable application, but when the extremities are involved, I have found the solution of the chloride of lime on many occasions eminently successful.' — *Dr M'Farland's Clinical Reports.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I.—SPINAL IRRITATION.

THE following paper from a valued correspondent will be read with interest. A physician, in relating his own case, is sure to arrest the attention of his medical readers, and awaken their sympathies, if he does not enlighten their understandings. If Harvey had given an account of his own case, and described the effects upon his gout of sitting upon the leads of his house, in frosty weather, with his legs bare, or in a tub of cold water, his contemporaries would have read it with more avidity than they did his exposition of the physiology of the vascular system. There are two circumstances in the following paper which we hope will attract due notice. The first is Dr Nichols' explanation of the cause of that increased pain by night, which is so common an attendant upon diseases denominated *rheumatic;* and the other is the extraordinary relief afforded by the hydrostatic bed. Our friend's judgment on this point is worth the more, inasmuch as he has never been reduced to that attenuated condition that we editors are prone to exhibit; but, under the influence of an easy conscience, freedom from perplexity, and a heart filled with amity to all mankind, he has been able to bear the weight of a much larger portion of the superincumbent atmosphere than falls to the lot of most of us.

An Essay on Irritation of the Spinal Marrow, read before the Essex Southern District Medical Society. By ANDREW NICHOLS, M. M. S. S., Vice President of the Society.

IRRITATION, or sub-acute inflammation of the spinal marrow, the cause of a large class of maladies, many of which are among the most painful and distressing which flesh is heir to, seems to have been, till within a few years, entirely overlooked. The great body of medical men have been, and still are, practising on these diseases, either profoundly ignorant of their seat, and the simple means of alleviating or curing them, or not sufficiently impressed with the vast importance of the discoveries of Mr R. P. Player, Dr Brown, Dr Darwell, Dr Teale, and others, who have written on the subject within the last fourteen years,—discoveries which, I doubt not, will lead to more important results than any others, which have been made within the last century, in medical science. It having been my good fortune — for so I deem it — to suffer severely under one form of this disease, I have acquired a practical knowledge of the subject, which it does not appear that the authors abovementioned possessed, and which enables me to propose with confidence several improvements in the management of patients suffering under neuralgia. Instead of attempting a new description of irritation of the spinal marrow, the following abridgment of one of Teale's chapters is given, for the benefit of those who have not had the privilege of studying that valuable work on this subject.

The symptoms of this affection consist in an infinite variety of morbid affections of the nerves of sensation, and volition, which have their origin in the spinal marrow; and the parts in which these morbid affections are exhibited of course bear reference to the distribution of the spinal nerves. These morbid states of sensation include every variety, from the slightest deviation from the healthy sensibility of any part, to the most painful neuralgic affections, on the one hand, and to complete numbness, or loss of feeling, on the other; including pains which may be fixed or fugitive, or darting in the direction of the nerves, prickling and tingling sensations, a sense of creeping in the skin, of cold water trickling over it, and numerous other states of perverted sensation, of which words are inadequate to convey a description. In the muscular system we find weakness, or loss of power, tremors, spasms or cramps, and sometimes a tendency to rigidity. The affection is often of a very protracted duration, undergoing alternate variations from the sanative powers of the constitution, and the different exciting causes of disease.

In this complaint, tenderness in the portion of the vertebral column, which corresponds to the origin of the affected nerves, is generally, in a striking and unequivocal manner, evinced by pressure. In some instances, the tenderness is so great that even slight pressure can scarcely be borne, and will often cause pain to strike from the spine to the seat of the spasm or neuralgia. This affection of the spinal marrow occasionally exists throughout its whole extent. More frequently, however, it is confined to some particular portion, and occasionally is seated in different and remote portions at the same time; the particular symptoms, and the tenderness on pressure, indicating the affected part.

When the upper cervical portion of the spinal marrow is diseased, we frequently find neuralgic affections of the scalp, over the posterior and lateral parts of the head, across the neck to the edge of the lower jaw, sometimes encroaching a little on the face. These neuralgic diseases frequently assume an intermittent form, the paroxysms generally occurring in the evening.

Irritation of the lower cervical portion of the spinal marrow gives rise to a morbid state of the upper extremities, shoulders, and integuments at the upper part of the thorax.

When the upper dorsal portion is affected, in addition to various morbid sensations, there is often a fixed pain in some part of the intercostal muscles, to which the name of pleurodynia has been assigned. When the lower dorsal half of the spinal marrow is the seat of this irritation, pleurodynia is felt in the lower intercostal muscles; frequently there is also a sensation of a cord tied around the waist; an oppressive sense of tightness across the epigastrium and lower sternal region; and soreness along the cartilages of the lower ribs, or in the course of insertion of the diaphragm. Various pains, fixed and fugitive, are also felt in the parietes of the abdomen, throughout any part of the abdominal and lumbar muscles.

The affection of the lumbar and sacral portion of the spinal chord, often produces a sensation of soreness in the neighboring integuments, and the lower extremities become the seat of various morbid sensations, spasms, tremors, &c. The patients also complain of a sense of insecurity or instability in walking; the knees totter, and feel scarcely able to support the weight of the body.

This irritation, or sub-acute inflammatory state of the spinal marrow, is not necessarily connected with any deformity of the spine, or disease in the vertebra. It may co-exist with these as well as any other diseases, but they cannot be regarded as dependent on each other.

Treatment.

When the different neuralgic symptoms, that have been enumerated, can be traced to this morbid state of some portion of the spinal marrow, the treatment that ought to be pursued is readily decided upon. Local depletion, by leeches or cupping, and counter irritation, by blisters, to the affected portion of the spine, are the principal remedies. A great number of cases will frequently yield to the simple application of either of these means. Some cases, which have existed several months, I have seen perfectly relieved by a single blister to the spine, although the local pains had been ineffectually treated by a variety of remedies, for a great length of time. In some irritable constitutions, a feverish state is occasionally produced by the blisters, during which the disease of the nerves will often be a little aggravated; but, on its subsidence, the nervous affections generally abate. A repetition of the local depletion and blistering is often necessary, after the lapse of a few days, and is sometimes required for a considerable length of time. In a few very obstinate cases, issues or setons have been thought necessary. It sometimes occurs, that, after the violence of the symptoms have been subdued, the neuralgic affections, in a mitigated form, assume an intermittent character, and a languid state of health continues. Such cases are benefited by tonic medicines and a change of air.

When there exists a tendency to relapse, I have thought it advantageous to continue the use of some stimulating liniment to the spine for a few weeks after the other means of treatment have been discontinued; — a liniment, consisting of one part of spirits of turpentine and two of olive oil, has generally been employed.

It is of course necessary that proper attention be paid to the regular functions of the bowels, and to the treatment, by appropriate means, of any other affection which may coexist. When my attention was first directed to this subject, I considered *recumbency* a *necessary part* of the treatment. It is, for a moderate length of time, undoubtedly beneficial, and frequently very much accelerates recovery; but subsequent observation has convinced me that it is by no means essential.

To the correctness of Teale's essay, so far as it describes my own case, I can bear the most decided testimony. Several of the symptoms are common to this and other very different diseases; but, whenever we meet with any of these symptoms, the spine should be carefully examined, and, if a tender spot or spots be found, this tenderness must be cured before we can remove the complaint. If the disease should prove complicated, then, indeed, even removing this tenderness may not cure, although it will probably greatly alleviate the suffering and pain. In regard to the means of doing this, — leeching, cupping, and blistering, — recommended by Teale, I can also speak decidedly in favor of their efficacy. At a time when both my arms were so lame and painful that I could use them only with the greatest difficulty, four leeches, applied to the lower vertebræ of the neck — even before they dropped off — removed this lameness almost entirely. Like effects followed cupping and blistering. But the irritation would soon return, and require a repetition of the remedies. In this way the complaint was kept in check, but little, if any, progress was made towards recovery. Teale does not tell us the cause of this, which I soon found to be the following of one of his own directions, — the confining myself most of the time to a horizontal position! — the real cause of the sudden return of the irritation, being continued *pressure* on the spine. The sufferer from this disease cannot lie long on his side, because the nerves of the arms, sides, hips, or lower extremities — the seat of the neuralgia, — cannot bear pressure, but are made immediately painful by it. Hence the patient *involuntarily* turns on his back — pressure is consequently made on the seat of the disease; but, as this part is seldom the seat of much pain, the mischief is not readily discovered. He perhaps, if worn out with watching, sleeps. The spine is no longer relieved by the little motion he gives himself while awake. The pressure is continued perhaps an hour or two; and he awakes with all his neuralgic affections aggravated in a tenfold degree. It is only by the greatest effort that he can change his position. His back is still the easiest part; but there is acute pain, numbness, soreness, and all the protean forms of neuralgia, throughout the course of the nerves, which proceed from those tender parts of the spine, suffering from pressure. Having satisfied myself of these facts, it became my study to protect the spine from pressure. By the careful adjustment of feather beds and pillows, while awake and on my guard, a tolerably easy position could be obtained and preserved for a short time. But sleep would invariably disturb this comparatively easy position, permit pressure on the tender parts, and restore the irritation and all its consequent mischiefs. I was therefore compelled to consider the direction in the books, for confining the patient to horizontal position, erroneous. I now sought relief by sitting up as much as possible. Such became my dread of the bed, from the increased uneasiness which invariably met me there, that for several days I sat up eighteen out of the twenty-four hours. Edema of the lower limbs came on, for the relief of which recourse was had to bandages. In this way, by continuing the blisters and leeching, I slowly gained on the complaint. In the mean time, I had turned my attention to Dr Arnott's Hydrostatic bed, — believing this, if, in reality, all that the journals describe it to be, the all-important means of curing this complaint in the most expeditious manner. I accordingly put in motion a train of operations, which, on the 27th ult., put me in possession of one in complete order. It proved all that I had anticipated. At nine o'clock P. M. I threw myself upon it, and laid more at my ease than I had been in any position since my confinement, for nearly twelve hours — having had during that period nearly six hours of quiet sleep, without any increase of neuralgia. From that hour I have found myself constantly and regularly improving. Leeches or blisters have not since been used. The whole extent of the spine has been well rubbed twice a day with the following liniment: —

℞ Tr. Opii, Ol. Oliv., Ol. Terebinth. — equal parts.

The lameness of my limbs is nearly removed. The urine, which, up to March 1st, had been during my confinement high-colored, depositing a thick sediment, resembling brick-dust, and which stained the white earthen vessel in which it stood a short time, of a bright crimson color, is now clear, and no longer deposites any sediment. I have indulged my appetite with a tolerably generous diet. Food digests well, which, by the way, has been the case throughout — having always relished food, excepting occasional periods of nausea from medicine. The antiphlogestic regimen was, however, rigidly adhered to until after the hydrostatic bed was obtained.

I am now convalescent, gaining strength hourly. In reviewing the history of my case, I am inclined to attribute the commencement of spinal irritation to a sudden injury of the back, by jumping down from a block about two feet high, upon the ground. A sudden pain seized me in the back, which remained considerably lame for several days.* From this time some trifling soreness about the sacrum, lameness of the hips and shoulders, was felt daily. This, however, was but little noticed. During the last week in January, and the first week in February, these symptoms were gradually aggravated, and attendance on my various professional and other duties, became irksome, and I felt myself compelled to give them up. I now used liniments to the limbs, took purgatives, colchicum, and other medicines, for *rheumatism*, — lounged on sofa, *easy chair*, or bed, — grew constantly worse — no care being taken to preserve the spine from pressure : for, as yet, although I had a knowledge, doubtless somewhat superficial, of irritation of the spinal marrow, and occasionally practised according to the recommendation of the authors above quoted, strange as it may seem, I was permitting this disorder to make dreadful inroads on my own health and comfort, without even a suspicion of the true cause. And when, from a hint from Dr A. L. Pierson, the truth burst in upon the mind, another week was nearly lost, in consequence of keeping a recumbent position on a feather-bed. Hard and slow the progress towards recovery was made by sitting up most of the time, until the possession of the hydrostatic bed removed the chief obstacles to recovery. After the discovery of the true nature of my case, I abandoned the use of internal medicine altogether, satisfied that the curative process could not be materially advanced thereby. It would seem that the public have not yet realized the immense importance of Dr Arnott's invention, — have not yet perceived its very general application to the relief of all, who, from any cause, are compelled to assume, for days or weeks, a recumbent position. The medical journals, so far as I have seen, have only given Dr Arnott's modest account of the uses to which it may be applied, without recommending the invention, as it deserves. But when we consider of how great importance ease of position must be to almost every curative process — be it of a broken bone, acute, or chronic disease — the hydrostatic bed becomes, so far as human comfort is concerned, the most important invention of the age.

The vast number and form of diseases, arising from irritation of the spinal marrow, and ganglia of the sympathetic nerve, and the probability that a great number of other diseases, such as fevers, &c., often become complicated with, and rendered fatal by spinal as well as cerebral irritation, caused, perhaps, by confinement to beds, which, instead of giving rest, irritate the spine, by too constant pressure — render it highly probable that the hydrostatic bed will, as soon as its value is generally known, save many lives, and an amount of human suffering vastly greater than imagination has yet conceived. Besides, even for the healthy it is a most luxurious bed, — warm, dry, and easy. In point of comfort, it so far exceeds all other couches, that it will be strange indeed, if it should not come into extensive use for the common purposes of rest.

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* This happened about Christmas.

Aided by this ne plus ultra of ease-promoting inventions, we may hope greatly to relieve, if not cure, those cases of severe neuralgic affections which we have heretofore given over in despair.

The discovery of the seat, and simple means of curing neuralgic disease, are calculated to raise the character and usefulness of the medical profession ; and no pains should be spared to extend the knowledge and benefits of these discoveries as widely as possible. Medical men, especially those somewhat advanced in years, are not yet generally apprized of the new light which has been thrown on this subject ; and it would seem that our medical journals would perform a most acceptable service to the public, by proclaiming aloud, again and again, until the truth shall have reached the ear of every practitioner of medicine, — that rheumatism generally, and a large class of painful, distressing, and obstinate diseases, hitherto variously named, and which have too often proved approbria medicorum, may, by a direct and simple process, be, in most instances, *cured* expeditiously.

Dr Arnott's Hydrostatic Bed.—This bed, when designed for a single person, is a trough, six feet or more in length, thirty inches wide, and one foot deep. When designed for two, one foot or more must be added to the width. This trough is filled about two thirds full of water, or other liquid. Over this a sheet of India rubber water-proof cloth, fifteen inches or more wide, and somewhat longer than the trough ; this is secured to the top of the trough all around, in a water-tight manner. This is best done by screwing down upon it a strip of board, of the width of the thickness of the plank that forms the trough. Thus secured, should any accident perforate, or otherwise injure the cloth, it can be taken off and mended without injury to the trough. The cloth being wider than the trough, it lies loosely in folds over the water on which it floats, and may be pressed to the bottom without any strain on the cloth. This trough may be placed within the frame of a common bedstead, supported by two joists bolted to the bedstead, which, by the means of screws, may be raised or lowered at pleasure. Over this a mattrass or feather bed is thrown, the bed dressed in the usual manner. On this the patient floats, in still or undulating water, as he chooses, — a trifling exertion of the muscles will put the whole in motion. It forms a perfectly luxurious bed, as much softer than down as down is softer than straw.

Danvers, March, 1834.

ART. II. — NITRATE OF SILVER IN OPTHALMIC INFLAMMATION.

AMONG fashionable remedies, the reputation of none have been better sustained than that of nitrate of silver in the treatment of inflammation of the eye. There are certain forms of this inflammation which the application of this caustic arrests as if by magic. But we must caution our inexperienced readers against its indiscriminate use, by which we have seen much mischief produced. Its good effects seem to us for the most part limited to affections of the conjunctiva and cornea. Its best effects are seen in its application to granular eyelids, from long-continued conjunctival inflammation. In this case it is always a safe and expeditious remedy, and prepares the way for the use of the milder astringents and tonic collyria. In conjunctival catarrh, purulent opthalmia, and vascular cornea, its application is very frequently followed by relief, though not as certainly as in the former case. In strumous opthalmia, with ulcers or specks upon the cornea, its effect is generally to arrest the disease, which also gives way very readily to active purging and the use of leeches. The eminent London surgeons are divided in their mode of treatment in this disease. Mr Guthrie relies with great confidence upon the caustic application, while the surgeons of the London Eye Infirmary, Mr Tyrrel and Mr Scott, trust entirely to purging with calomel, and the compound extract of colocynth, with the occasional application of a leech in the most severe cases. It may be remarked, that the strumous habit is the most prevalent condition of the poorer classes in London, and, consequently, this affection of the eye is vastly the most common.

Mr Guthrie's mode of using the caustic, is by applying a portion of his celebrated *black ointment*, about as large as a grain of wheat, beneath the upper palpebra, which is gently rubbed over by the finger, until the ointment is equally diffused over the conjunctival surface. The first effect is severe pain, which sometimes lasts several hours, but, when it abates, the sensibility of the inflamed surface is found greatly diminished. After one or two applications of the caustic, milder astringents and tonics have much greater effect. Active purging is as useful as where the caustic applications are omitted.

Mr Guthrie's ointment is prepared as follows: —

Take of Nitrate of Silver ten grains,
Fresh lard, a drachm,
Liquid sub-acetate of lead, fifteen minims.

Triturate in a glass mortar until the constituents are incorporated. The nitrate of silver is first to be levigated with the *utmost care and nicety;* for, if this is not done, and a piece of the caustic remains, of any considerable size, it will infallibly produce a slough. The lard is to be gradually added, and the Goulard's Extract dropped in and incorporated. Several repetitions of this ointment may be necessary, where the vessels are very turgid, and the disease of long standing. Generally two applications are sufficient.

A more common way of using the nitrate of silver, in this country, is in the form of an aqueous solution, of twenty grains to the ounce, applied with a camel's hair pencil. Distilled water should be used, as a black precipitate is formed with common water. But the most convenient way of all of using this caustic, in diseases of the eye, is in substance in the form of pencils, made with red cedar, precisely as lead pencils are manufactured. The solid caustic being lightly drawn over any part of the conjunctival surface, immediately turns it white, by the production of a very superficial slough. The immediate and free application of warm water, soon relieves the pain caused by the caustic, which is not so severe when a superficial slough is actually produced, as when the part is only very highly stimulated.

There is one affection of the eyelids, in which the caustic application is in our hands a specific cure, viz.: tinea ciliaris. If the hard crusts on the margin of the lid, formed by the purulent exudations which exist in this disease, be carefully removed, and the parts repeatedly touched with a pencil of caustic, the pustules almost invariably disappear in a short time. In iritis and inflammation of the internal tunics of the eye, the lunar caustic is certainly a hazardous application. E.

ART. III.—CAUTIONS FOR PATHOLOGICAL ANATOMISTS.

THERE are three conditions in which any tissue or organ of the body may be found, between which it is necessary to discriminate with accuracy, in order to form correct inferences in morbid anatomy. The first of these is the natural or healthy, which we find to possess certain varieties either of color or density, according to the age of the subject. The second is the abnormal or morbid, and is to be regarded as the result either of some perversion of the development of a part, or of the influence of the disease upon it. The evidence of this condition is derived in the one case from some congenital malformation, and in the other from certain appearances which the texture of the part exhibits, and which vary in aspect and extent, according to the duration and violence of the disease: these are the morbid appearances. The third condition differs from both of those above-mentioned, yet in some points resembles the morbid. This condition is in general produced by causes which come into operation after death; sometimes, however, they may partially take effect a short time before death; and sometimes it may owe its rise to other causes, hereafter to be noticed, and only in action during life. The appearances which characterize this condition of the tissues of the human body, may be denominated *pseudo-morbid appearances*, as being liable to be confounded with, and, as it were, simulating those which are morbid.

Although the attention of pathologists has been a good deal directed to this subject of late years, we find but little written upon it, and the term pseudo-morbid in limited use. Dr Yelloly, in a paper published in the fourth volume of the

Medico-Chirurgical Transactions, was the first to point out that the mucous membrane of the stomach may exhibit an increased degree of vascularity under certain circumstances, independently of inflammatory action. In France, the extravagant assertions of Broussais, who, in order to establish a favorite hypothesis, pronounced every increase of redness to be indicative of inflammation, had the good effect of inducing anatomists to inquire whether other causes than disease could similarly alter the aspect of the tissues. By the researches of Trousseau and Rigot, and also of M. Billard, much light has been thrown upon the post-mortem changes which occur in the body, and which give rise to appearances often very similar to those of inflammation. We are likewise indebted to John Hunter, Allan Burns, and more recently to Dr Carswell and Orfila, for much interesting and valuable matter, which we shall presently have occasion to notice.

It may be well to state our reasons for the adoption of a hybrid term, *pseudo-morbid*, in preference to others more generally in use. Let it be observed that we employ the term in question to denote those appearances in any given tissue which might be mistaken for the effects of morbid action in that tissue. To apply the terms *cadaveric* or *post-mortem* to such phenomena, would be to limit their number and causes; whereas, it will appear in the sequel, that some tissues of the body may present appearances which must be regarded as *pseudo-morbid*, and which result from the action of causes operating *before* death. We are not aware that the term is employed by any writer except the author of an analysis of M M. Trousseau and Rigot's papers above-mentioned, which is to be found in the 28th volume of the Edinburgh Medical and Surgical Journal, and Dr Christison, in his very valuable and elaborate work on Poisons. Under this denomination, then, we would be understood to include all appearances in the dead body which might be mistaken for morbid appearances, whether they arise from the action of causes antecedent to death, or whether they be strictly such as are now generally spoken of as *cadaveric* or *post-mortem* appearances.

In the great majority of cases, a more or less gradual diminution of the vital powers precedes dissolution. The influence of life, in preserving the integrity of the membranes of the body, whether it act through the nervous system or in any other way, gradually diminishes, and a corresponding change is manifested. This is most conspicuous in the capillary circulation, which becomes impeded to a variable extent in several places, the vessels being less capable of resisting the force of gravitation. This disturbance of the capillary circulation may be noticed in almost every tissue in the body. In the agony of death, the same cause, it is natural to expect, will operate to a greater degree, and at the same time the occasional muscular contractions, which often mark the final struggle, must mechanically cause irregular distributions of the blood in the sanguiferous system. The extent to which these irregularities take place is in general proportionate to the strength of the patient (inversely), to the duration of the struggle, and in some cases, we conceive, to the degree of fluidity of the blood itself, (directly). Any one who has ever watched a patient in the last stage of typhus fever, will not want further testimony in favor of the accuracy of the preceding statements. The general cutaneous *hyperæmia* of the back and dependent parts, indicates that the laws of gravitation have begun to operate to a much greater extent than during the state of health. We may also adduce the *pneumonie des agonisans* of M. Laennec, the *engouement de position* of Andral, or the *pneumonie hypostatique* of Piorry, as additional corroborative evidence.

But even when life is in full vigor, local sanguineous determinations may occur independently of the immediate operation of disease on the part in which they appear. Thus the performance of particular functions may cause an afflux of blood to the particular organs; as, for example, while the function of digestion is going on, we find that a marked change is produced in the color of the mucous membrane of the stomach. Again, if any obstacle occur to the free return of the venous blood, there is in general formed a congestion of the capillary system to a greater or less extent; this is more conspicuous where the veins are destitute of valves, as in the mesenteric veins, the pulmonary veins. Hepatic disease, by compressing one or more ramifications of the vena portæ and some forms of disease of the heart, are very frequent causes of the local determinations to which we allude.

With the cessation of life is removed all opposition to the full scope and play of gravitation and chemical affinities, the former of which was partially in operation during life. The manner in which the fluids seek the dependent parts is clearly to be attributed to the action of gravitation. In fact, it has been proved to be so caused, over and over again, by the simple experiment of turning the body occasionally, so as to change the dependent parts; in this case the blood is invariably found to leave the vessels that were before lowest, to seek those that now are so. Bodies being usually placed supine after death, the integuments on their posterior surfaces are uniformly found congested, but if the body be placed immediately after death on the face and abdomen, a similar congestion will present itself in the integuments covering those parts.

The effects produced by the operation of chemical affinities are apparent in the alterations in the texture, the density, and the specific gravities of the tissues: gases are evolved, new fluids are formed, and the membranes are often considerably discolored; in short, in the action of these affinities consists the putrefactive process, whereby new compounds are formed, and the former constituents of the body almost wholly vanish. We find considerable variation in the period of commencement and rapidity of course of this process, not only as regards different bodies compared with each other, but also with respect to particular parts of the same body. The age and habit of the individual, the quantity of the fluids, the kind of death, as well as the circumstances which preceded it, the season of the year, climate, state of the atmosphere, are so many circumstances which exert a powerful influence on the rapidity of the phenomena of this process, as must be familiar to every one who has studied anatomy even in the most superficial manner.

To the action of these same chemical affinities, we think, may be fairly attributed, at least in part, a very evident cadaveric phenomenon; namely, that increased porosity of the membranes by which the contained fluids are allowed to transude through the coats of the canals or sacs which hold them. We say *increased* porosity, for it must be admitted as the result of recent experiments, that transudation may take place to a slight degree, even during life. Life, then, must be supposed to operate in limiting this porosity, by preventing the action of the chemical affinities; when life ceases, these affinities come into play, and there takes place a separation of the molecules of the tissues to a degree proportionate to the extent of action of the same affinities. There is no part of the body in which we do not observe this phenomenon: it is not confined to sacs with simple parietes, but extends also to those of which the walls are compound; we observe it to take place through the coats of vessels, through the walls of any or all of the membranous viscera, and even through serous membranes.

The alterations, which are produced, then, on the several organs or membranes of the body, by the action of the agencies above detailed, may be stated in general to be — 1, such as affect the color of parts; 2, such as alter their density or consistence; 3, such as alter the contents of a natural cavity, as, for example, a serous sac, by increasing or diminishing the quantity, or altering the nature of fluid in it.

We proceed to consider these effects as they manifest themselves in the different parts of the body, and we shall adopt the order usually followed in making a post-mortem examination, commencing with the external integument and the cellular tissue, then proceeding to the contents of each of the three great cavities, head, thorax, abdomen; and, finally, to the arterial and venous tissues.

1. *The external integument.* — The alterations in color which the skin presents after death, are almost the only phenomena which it exhibits liable to be mistaken for those of disease; and even they are so distinct in the mode of their formation, that any mistake must arise from a very superficial examination. Spots of various degrees of redness, and also varying in extent, are almost uniformly observable on the dead body. In general they are of a dark red, which increases in depth of color with the length of time that has elapsed from the death of the subject. As this cutaneous discoloration is principally owing to the influence of gravitation, we find it uniformly on the most dependent parts, the occipital portion of the scalp, the posterior surface of the neck, the back, nates, posterior parts of the thighs and legs. That it is confined to the skin may be seen by cutting into the corion where the redness exists. It is moreover to be observed that this redness is vascular, and that the surface of the skin presents the appearance of a ramiform distribution of vessels. This is important, as characterizing the kind of discoloration arising from gravitation, and distinguishing it from that which may be the result of the pressure of ligatures or vestments, &c. on the surface before death; for in this latter the redness will be found to be diffused and uniform, without any appearance of vessels.

But cutaneous discolorations or lividities may occur in situations not dependent, and at a more advanced period after death, being phenomena purely cadaveric. When decomposition has fully set in, and gases are being disengaged in the stomach and intestines, the surface of the skin of the face and neck becomes of a livid color ; the superficial veins are full, and streaks of a dark color indicate the course of most of them. This congestion Chaussier attempted to explain by attributing it to the compression of the right auricle of the heart by the diaphragm, which was pushed up by the stomach distended with gas ; and he states that by producing a similar distention of the stomach artificially, viz. by the introduction of a fermenting mixture into it, he was enabled to exhibit similar effects on the cutaneous capillary system. The compressed right auricle causes in the blood a retrograde motion from venous trunks to branches, from the branches to the capillaries, which is the more easily done, as at this period the blood has to a considerable degree resumed its fluidity. To this fermentation and gaseous development may be atttributable, as Chaussier further observes, the passage of pieces of food from the stomach into the pharynx, larynx, and bronchi, the passage of worms into the bronchi, nasal fossæ or mouth.

2. *The cellular tissue.* — The subcutaneous cellular tissue is generally more or less discolored in the neighborhood of or immediately beneath the cutaneous discoloration. Here, however, the change of color takes place from a twofold cause, — the gravitation of the fluids in the vessels, as well as the transudation of the serous portion of the blood, through the vascular parietes. These two causes generally reduce the subcutaneous tissue to an anasarcous condition, which of course increases with the progress of decomposition ; the serous portion of the blood, too, becomes more and more tinged by the coloring matter. We need hardly refer to the common appearance of the cellular membrane under the integuments of the back, with which every student of anatomy is familiar, in proof that this is the ordinary condition of that membrane, and that too within a very short period after death, as the effect of gravitation and transudation. But as putrefaction advances, and the blood resumes its fluidity, we observe ecchymoses to form in the subcutaneous tissue, the distinction of which from the effects of contusions before death is sometimes an important task for the medical jurist, and is rendered more difficult by the fact that these ecchymoses do not seem to be formed under the influence of gravitation, being found even in elevated parts. Although it does not strictly come within the range of this article, it may be proper to mention that the following circumstances, noticed by Orfila, will assist in distinguishing these

cadaveric ecchymoses from such as may have been formed by violence or otherwise before death: — 1. Their situation, which will generally be found in those localities where the cellular tissue is very lax and distensible, as in the occiput, loins, eyelids, and scrotum; 2, the general evidence of an advanced stage of putrefaction presented by the dissolving condition of all parts of the body; 3, the uniformity of color presented by these ecchymoses, which is not usually observed in those made during life.

Subcutaneous ecchymoses, however, may be produced by direct violence applied to the body shortly *after* death, as has been proved by experiment by Dr Christison, and as may often be seen in the dissecting rooms. Effusions of blood into the intermuscular cellular tissue, it is important to bear in mind, may likewise be produced by violence to the body after death. During the winter of 1830–31, we had occasion to notice this fact upon bodies which, from the then imperfect state of the laws regarding dissection, were conveyed to London tightly packed in boxes from distant parts of the country. In such bodies extensive extravasations of blood into the cellular membrane between the muscles of the back were uniformly present. This fact had been likewise previously well ascertained by the happily devised experiments of Dr Christison on the occasion of the murders committed at Edinburgh.

We do not find any induration of the cellular tissue of a pseudo-morbid character; but it may be remarked, although the fact cannot have escaped the most superficial observer, as a post-mortem result, that this tissue is frequently emphysematous, and, indeed, always so after a certain period in the work of decomposition, but sometimes very soon after death, as in some low and putrid fevers, &c.

3. *The head.* — On opening the cranium, the attention is first directed to the quantity of blood contained in the small venous trunks which are seen ramifying on the surface of the dura mater and in the sinuses. It was long ago noticed by Vicq d'Azyr, and subsequently by Marc, that the straight sinus and torcular Herophili uniformly contain coagulated blood, in consequence of the blood when fluid flowing to that dependent position. On the same principle we may expect to find the superficial veins of the dura mater more distended towards the posterior portion of that membrane. With respect to the general appearance of the dura mater, the anatomist has only to take care that he attributes a condition of hyperæmia of it,

whether local or general, to its proper cause: in consequence of the fibrous character of this membrane it is not liable to a diffuse discoloration, as some of the other tissues are, nor do we find any alterations of its consistence which are at all likely to be mistaken for morbid ones. In fact it resists the putrefactive process for a considerable time, as do all membranes of the same nature. It is proper, however, to remember that a *hyperæmia* of this membrane may be developed in the progress to decomposition, by the disengagement of gas in the stomach, and the compression of the right auricle, in the same manner as Professor Chaussier supposed some cutaneous lividities to be produced, as already alluded to.

When the dura mater, with its adherent layer of arachnoid, has been slit up, so as to expose the visceral layer of the latter membrane, and in fact to open into the arachnoid sac, the anatomist generally looks first for some effusion between this membrane and the subjacent pia mater. We fear that in general too much stress is laid upon the occurrence of effusions between the arachnoid and pia mater. Here what is really a natural condition is very apt to be mistaken for a morbid one; and on the other hand, the total absence of effusion is too often regarded as indicating a state of health, when such a conclusion can be by no means constantly deduced. The interesting discoveries of M. Majendie relative to what he has termed the cephalo-spinal fluid, deserve more attention than seems to have been bestowed upon them by most practical pathologists. The principal conclusions at which he has arrived are the following: — 1. That in the state of health there exists a fluid between the visceral layer of the arachnoid and the pia mater, both of the head and spine; the quantity of which is never below two ounces in the adult, and often amounts to five in subjects of large stature, and whose cranium is not of small dimensions; that the fluid contained in the spine communicates with that in the head, and vice versâ, so as to pass freely from one cavity to the other; — and that a portion of the same fluid is found in the lateral, the third and fourth ventricles of the brain, which communicate with the space between the arachnoid and pia mater by an opening situated at the inferior extremity of the fourth ventricle, between the upper part of the spinal marrow and the valve of Vieussens. 2. That this fluid may be demonstrated in full quantity either during life, or at a short time after death; but after a period of little more than twentyfour hours it becomes absorbed, and therefore diminished in quantity, or altogether removed : if after that period sub-arachnoid effusion of this kind exist, it is to be considered either as entirely a post-mortem appearance, or the remains of the natural effusion, to which had been added a quantity of fluid, the result of morbid action. 3. That a diminution as well as an increase in the quantity of this fluid is capable of producing serious disturbance in the functions of these important portions of the nervous system. It is plain, therefore, from the above abstract of Majendie's discoveries respecting this cephalo-spinal fluid, that it would be always difficult, and often impossible, to decide whether a sub-arachnoid effusion be a natural, a morbid, or pseudo-morbid phenomenon. Unless the effusion be very considerable, and have been found very shortly after death, we cannot with certainty pronounce it to be the effect of disease. But those which are found forty-eight or seventytwo hours after death are for the most part pseudo-morbid, being caused by the transudation of the serous part of the blood through the vascular parietes, so much so that, in opening a body two or three days after death, we may invariably expect to find sub-arachnoid effusion to a greater or less extent. We conceive that a due attention to these facts connected with the cephalo-spinal fluids will sufficiently account for the surprise or disappointment which some have expressed respecting the want of coincidence between the severity of symptoms and the extent of effusion.

The degree of color of the pia mater is often increased by the same causes which we have already enumerated as influencing post-mortem sanguineous determinations : in this case it will always be found that the other tissues within the cranium which admit red blood are similarly congested. In some cases this congestion may go so far as to produce extravasation ; and if the body has lain long after death, the serum effused between the pia mater and arachnoid will be more or less tinged with the red particles of the blood. We may here remark further, that sanguineous extravasations from apoplexy, if extending into the cavity of the ventricles, will communicate their color to the cephalo-spinal fluid, provided the natural communication of the internal cavity of the brain with the sub-arachnoid cavity be not interrupted.

With respect to the encephalon itself, it may be stated that in general (such obvious cases as apoplectic clots, abscesses or tumors being excepted) it is extremely difficult, nay, often impossible, to decide between the morbid and pseudo-morbid states of this organ. This latter state is such as manifests itself by a change in the color and consistence of the cerebral tissue. As to color, we find it, here as elsewhere, influenced by the quantity of fluid blood in the viscus: in the cortical substance, from its much greater vascularity, that discoloration is most likely to appear; and it is of the first moment to distinguish it from the redness of inflammation, because we find that the same color may be the result of an active determination of blood to the brain, as well as arise from a mechanical congestion of its membranes and substance. To determine this question it will be necessary to note accurately certain collateral circumstances — the condition of the arterial and venous system of the head generally — the degree of plenitude or vacuity of the heart, whether it afford any obstacle to the free return of the blood, or by an increase in its propelling power magnify the momentum of the columns of blood to the head — the position in which the head of the individual has been laid since death — and also whether putrefaction has begun, or the degree to which it has advanced.

The alteration in consistence, by a diminution of it, *(softening,)* is the most constant and obvious change which the brain and spinal marrow present. This softening is equally the result of disease and of the tendency to decomposition. Before proceeding to indicate the distinction between these two kinds of softening, it may be well to notice that in the state of health the different parts of the cerebrospinal axis present a marked difference as to consistence. Thus, in the adult, the spinal marrow is softer than either the cerebellum or cerebrum; the cerebellum than the brain; both these parts softer than the pons Varolii. In the child the spinal marrow is firmer than the brain, and more resisting than in the adult.

The morbid and pseudo-morbid softenings present many characters in common, as to situation, color and smell: indeed, we have no sign sufficiently free from ambiguity to indicate either of these conditions with certainty: both attack the grey substance most frequently, and before the white; both exhibit the same varieties and shades of color — with this exception, that in the morbid softening we often see the affected part of a bloody tinge, arising from a slight sanguineous effusion: sometimes a purulent infiltration is found, which is obviously decisive. In the extent of these two forms of ramollissement, we have a more certain indication of their cause; the pseudo-morbid will generally be found to pervade the whole cerebral mass, varying perhaps in degree according to the above-mentioned scale of natural variations of consistence, but the morbid ramollissement is almost invariably circumscribed. We say *almost*, because a morbid ramollissement has been met with of unusual extent, occasionally in the adult, but more frequently in the new-born infant. A state of general ramollissement of the brain is met with in cases of general anasarca, and differing very much from morbid softening. It arises from the infiltration of the brain by the fluid effused in the cranium and beneath the arachnoid. It can be produced in the dead body by injecting water through a small opening made in the head; the whole fluid injected will not be found in the serous membrane.

M. Orfila suggests the propriety of pronouncing with caution on a morbid ramollissement merely from its locality being defined, because the cadaveric softening does not begin at the same time in all parts; the fornix, septum lucidum, and walls of the lateral ventricles, being the situations in which it first shows itself.

The spinal marrow is remarkable for the rapidity with which it softens. Every anatomist knows that in order to dissect that organ satisfactorily he must obtain it from a body quite recently dead, and that even then a short exposure to the air causes a rapid diminution in its consistence. The internal grey substance seems more prone to this diminution of consistence than even the white, and hence the great diversity of opinion among anatomists respecting its exact form and characters in a state of health. However, in this organ there does not appear, so far as we at present know of its morbid states, any difficulty in distinguishing the pseudo-morbid softening from that which is caused by disease; for the circumscribed locality of the latter, with the augmented vascularity of the surrounding portion, and slight sanguine tint of the softened part, will in general be sufficiently characteristic. We are not aware that such a decidedly pathological general ramollissement of the cord has been found as we have noticed in the brain.

4. *The thorax.*—On opening the chest in the usual way, the membrane of the pleura first attracts notice. After the lapse of some time from death, an infusion is invariably found in this serous sac, which is liable to be mistaken for a morbid one. The subserous cellular tissue and the pulmonary substance being abundantly pervaded by fluids, it follows that a transudation of them must necessarily occur after a certain period, and of course they will be collected into the sac of the

pleura. The bloody color of this fluid, its serous character, the absence of any organizable matter such as serous membranes are prone to secrete, are sufficient to prove that this is not a morbid phenomenon; moreover, it will seldom be found, except in a body examined at least fortyeight hours after death, and its quantity will be in proportion to the condition of the body as to decomposition. Sometimes, but rarely, gaseous effusions take place in the pleural sac; they are in general complicated with old pleuritic effusions, and result from their decomposition, thus constituting one of the species of pneumothorax described by Laennec. Whether this disengagement of gas takes place before or after death is not easily determined; probability is in favor of the latter, but the experiments of Gendrin seem to indicate the presence of a variable quantity of gas in the chest in very acute pleurisies, appearing just when the inflammation seems to have arrived at a certain degree of violence.

In the mucous membrane which lines the air-passages, from the larynx and trachea to the minutest bronchial ramification, discolorations occur from various causes, which are extremely likely to deceive even a practised eye. In the larynx, trachea, and larger bronchi, this discoloration is not so variable. We here find a passive hyperæmia from the gravitation of the blood, in which case the mucous membrane is only partially congested. We also find here a congestion from obstruction to the circulation generally, dependent on disease of the heart; but in the minute bronchial ramifications we find not only the influence of gravitation or transudation after death, producing alterations in the aspect of the membrane, but likewise these causes are apt to take effect in the struggle of death, or even some time before death in very debilitated persons. The progress of putrefaction in general produces a very marked and diffuse brown color of the mucous membrane, much more intense in the smaller tubes. To be able to decide upon any one of the above species of hyperæmia of the bronchial membrane will require a careful consideration of co-existing circumstances. In the latter instance, the general condition of the pulmonary and the other tissues as to their state of preservation, will materially assist; in the other cases the injection is ramiform, and the membrane does not appear so uniformly dyed, the redness being chiefly limited to dependent parts; and the state of the heart or great vessels will assist further in deciding upon the true nature of the redness. These circumstances will direct us in discriminating any of these different forms of redness not only from the others, but also from that which is produced by inflammation. Inflammatory redness, it should be remembered, is often accompanied with some secretion, either a viscid and adherent mucus, or a pseudo-membranous exudation, or even purulent fluid, all which are unequivocal proofs of the morbid nature of the color of the membrane.

In examining the pulmonary tissue itself, we experience considerable difficulty in distinguishing between its pseudo-morbid and morbid conditions. We can say with confidence, from tolerably extensive opportunities for studying the subject, that there is no one point in morbid anatomy more difficult to pronounce upon with certainty, than whether a hyperæmia of the lung be inflammatory or not. Every one must have experienced how unsatisfactory are the signs of the second stage of pneumonia — the *engouement* of authors. It is obvious that this difficulty is greater the longer the period which may have elapsed since the death of the subject. It however rarely happens that a patient dies in the first stage of pneumonia; most frequently we find that the disease has in one portion of the lung advanced to its second stage (*red hepatization*), and very frequently the third stage (*grey hepatization*) is exhibited in the same lung along with the two preceding. Where either of the forms of hepatization exists, there can be little doubt as to the nature of the congestion in any other part of the lung. Moreover, we may remark that the inflammatory congestion affects the upper as well as the dependent parts. The following observations from Andral will show how he estimated the difficulty of laying down any distinction between inflammatory and the pseudo-morbid hyperæmia. 'It is,' he says, 'in the lungs as in the intestines, where a local accumulation of blood may be found in the dead body, which has had no share in producing any of the morbid phenomena observed during life, but was formed during the last moments of existence, or after life ceased altogether. Hence it follows that the existence of a simple congestion, especially when it occupies the most dependent portions of the lung, is not sufficient to prove that a process of irritation or inflammation had been going on there during life. Does the alteration in the consistence of the part afford a more certain criterion to judge by in such cases? For a long time I was of opinion that when the lung was red and gorged with blood at its posterior portion, and at the same time was softer and more easily broken down than natural, it was a proof that the hyperæmia was caused by inflammation; but I have since altered my opinion, and am now convinced that whenever the sanguineous congestion is so great that the lung contains a larger proportion of blood than of air, the pulmonary parenchyma is invariably soft and friable. The reason of this fact will readily be understood if we reflect that when the lung contains a much larger proportion of air than of blood, the parietes of the bronchi, when pressed by the finger, press in their turn on the compressible fluid they contain, and in this way, by compressing or expelling the air, retire before the pressure of the finger, and so escape being ruptured. But when the lung contains a larger proportion of blood than of air, the former fluid being almost wholly incompressible, the pulmonary tissue cannot recede from under the finger, and is therefore easily ruptured.' And in another section he remarks, 'as the anatomical characters of the hyperæmia are precisely the same in both these cases, it follows that, in this instance at least, the true nature of the lesions found on dissection can only be known by the nature of the symptoms observed during life.'

We can hardly suppose it possible that gangrene of the lung, and any post-mortem congestion of it could be confounded together. The peculiar smell from a gangrenous spot is a certain indication of its true nature. However, if any condition do appear closely to resemble gangrene, by carefully washing the suspected portion of lung in clean water we shall, in general, succeed in exhibiting the sound pulmonary texture.

In the pericardium the signs of disease are so very obvious, that we know of no phenomenon which that membrane can present which could be considered pseudo-morbid. There is found, however, in its cavity, after a certain time, a sero-sanguinolent effusion in small quantity, which, like a similar one above noticed in the pleura, is to be be regarded as a cadaveric result.

Except after the lapse of a considerable time from death, we have never seen any post-mortem condition of the substance of the heart which could be mistaken for a morbid one. We not uncommonly meet with softening of the muscular texture of the heart; and this may arise from so many different causes, that Andral has enumerated six varieties of it; with any of these may be confounded a true cadaveric softening, which, however, generally does not appear for a long time after death.

The best criterion of the true nature of a softening of the heart's parieties may be formed from the state of the internal membrane; if that membrane be healthy, or do not partake in the diminished consistency of the heart's parieties, then the great probability is in favor of this condition being the result of disease. But when the internal membrane is of a deep red color, and is more or less softened, while at the same time there is no appearance of any lymph or other product usually resulting from inflammatory action, then we consider it impossible to determine with certainty to what cause the softening is to be attributed. In some instances, the blood has been known to transude through the walls of the heart, and form ecchymoses either between the fibres or on the external surface. Such ecchymoses will want the regularity of form which those formed during life would possess, and rarely, if ever, take place except in an advanced stage of decomposition. We have twice seen numerous ecchymosed spots on the hearts of patients who died of purpura hemorrhagica; but these should be considered as morbid, and attributable to the same cause as the cutaneous ecchymoses.

The internal membrane of the heart often presents an obviously pseudo-morbid alteration in its color. When the examination of a body does not take place for forty-eight hours after death, or in very warm weather for a longer period, we may invariably expect to find this membrane of a red color to a greater or less extent. That portion which lines the dependent parts of the cavities will always be found so, and to a greater degree than the rest, because the coloring matter sinks through the coagulum, so as to come immediately in contact with the internal surface of the heart; and this will account for the fact, that except at a very advanced period in the cadaveric decay, this redness generally appears in patches, and those most intense which are most dependent. A precisely similar redness will occur under circumstances which can leave no doubt that it took place during life; but as this subject is closely connected with the appearances of the internal coats of arteries, we shall defer any farther remarks upon it till we come to that section of our article.

The fibrinous masses which are almost uniformly found in the cavities of the heart are not to be considered in every instance as morbid productions, as the older pathologists thought; in general they are formed after death, or immediately before it, and merely from the natural disposition of the fibrine to assume the solid form. However, some of these coagula have been found organized, some containing pus, others with pieces of bone on them or in them; whence we must conclude that these fibrinous masses may be formed before death, and produce considerable disturbance of the circulation.

5. *The abdomen.* — Of all the serous membranes, the peritoneum is most liable to morbid effusions. But in this cavity, as well as in that of the pleura, we generally find a post-mortem effusion after thirty or forty hours; which, like that of the pleura, is in general colored by more or less admixture with blood. This fluid will always, except it be in very great quantity, be found in the pelvic portion of the peritoneum. In the serous membrane itself, we know of no pseudo-morbid appearance likely to occur, except we name that softening produced by contact with the acid contents of a perforated stomach, which we shall presently notice more fully. The discoloration arising from contact with the gall-bladder is too evident to be mistaken for disease.

In examining the exterior of the intestinal tube, as the intestines lie in the abdominal cavity, we observe appearing through the serous coat vascular ramifications more or less numerous, and more or less filled with blood. Here we observe well illustrated the effects of gravitation on the blood within the vessels of the intestines; those coils which are lowest, namely those which hang into the cavity of the pelvis, always presenting the deepest color, and also the most depending portions of all the parts of the canal.

There is no membrane of the body which presents pseudo-morbid coloration arising from so many different causes, as the gastro-intestinal mucous membrane: we speak now of the color which results from particular distributions of the blood in its vessels. In the first place, we may notice that the *act of digestion* produces an increased degree of redness of the mucous membrane of the stomach as well as of the small intestine. The effect produced by digestion on this membrane has been well noticed by Gendrin; he says, that the membrane becomes of a rosy hue, deeper in young than in old subjects; and that it is owing to the action of this function may be very well inferred from the fact that only that portion of the membrane is colored which is in contact with the chymous mass. It is also remarked round the portions of digested matter which are found in the lower part of the small intestine. It appears, too, that the degree of color depends very much upon the quality of the food, being less intense when the food is of a bland nature. This has been proved upon two dogs, to one of which milk only had been given, to the other an equal quantity of rich broth highly seasoned; the mucous membrane of the latter was of a deep red color, while that of the former was very slightly altered. Fasting, also, has the effect of altering the color of this membrane, giving it a rosy hue in its whole extent; in this way differing from the effects of digestion, which produces only a partial coloring.

A third cause of alteration of color results from 'the passive hyperæmia,' to adopt the language of Andral, 'which has always a tendency to take place in the last moments of life in the parts abounding with capillaries.' In this case the color is generally of a darker hue, and the greatest quantity of blood is found in the vessels of the depending portions of the intestines.

Any obstacle to the free return of the venous blood, whether it reside in the liver, or from compression of the vena portæ itself, or whether it is to be found in the heart, will produce increased vascular injection of the mucous membrane; the blood in such cases will be of the venous kind, and the injection extensive, and even universal; varying, however, according to the period before death at which the obstruction commenced.

Such are the circumstances which operate before death in producing pseudo-morbid coloring of the mucous membrane. In the true inflammatory redness, there is generally some degree of thickening of the membrane, as well as a viscid mucous secretion in variable quantity. The redness, too, is not affected by position, being equally great on the upper as in the depending portions; and in a more advanced stage of the inflammation there may be lymph or purulent matter.

After death, we find the blood accumulating with greater rapidity, and in a more marked manner in the depending parts. This phenomenon may be observed as to the mode of its occurrence, by removing a coil of intestine, tying it at each extremity, and hanging it up; after some time the blood will be seen to leave the upper part, and accumulate in the lower portion of the intestine. If there be much blood in the capillary system of the mucous membrane, we observe another cadaveric phenomenon, after the body has lain for some time: the mucous membrane, and of course the villi, are gorged with blood, which presently begins to ooze out upon the surface, and to pass into the cavity of the intestine. This we lately saw well exemplified in the case of a young gentleman who died of fever, and whose body we could not obtain permission to examine till five days after death. All the upper portion of the small intestine was free from sanguine conjestion, but that part of it which lay in the pelvis was found to be of a dark red hue externally; the mucous membrane being gorged, especially at its inferior part, and the cavity of the intestine full of fluid blood. This phenomenon is easily explained if we consider how freely the blood passes from the larger mesenteric veins to the villi, which moreover, from the researches of Ribes, appear to contain more veins than arteries; it is also further accounted for by the great facility with which an intestine may be inflated by blowing air into its principal venous trunk. Contact with the spleen produces a redness of a different kind, being more of a uniform stain or tinge of the membranes in its vicinity. This obviously arises from transudation of the blood from this vascular body through its coats. After a certain period we find the blood to transude through the coats of the larger vessels of the stomach and intestines so as to produce a more or less continuous stain, or extravasation of blood in the cellular membrane on each side of the trajet of the vessel. This appearance must be familiar to every one who has examined a stomach in an early stage of decomposition; the stain is distinctly visible on the mucous surface, and may also be noticed on the peritoneal surface. The period at which this transudation may take place will very much depend on the season, the temperature of the room, and perhaps the state of the blood.

There are two other causes of discoloration which it is well to remember, although the appearances they produce may not be very apt to be mistaken for morbid ones. One of these is the presence of gases in the cavity, which may alter in various ways the color of the blood collected in the coats of the intestine. The action of the bile, too, by soaking into and combining with the mucous membrane, produces a very obvious change in its color, and this may even extend into the stomach. There is a third cause of discoloration resulting from the action of the gastric acid on the blood, which we shall notice more fully after considering the other effects of that acid.

In inspecting the alimentary canal, we should not neglect to observe accurately the nature of its contents, for sometimes some colored fluid may be found among them which may impart its color to the membrane. Dr Christison quotes a case in which a suspicion of poisoning had arisen from the inspector hastily referring the altered color of the inner membrane of the stomach to inflammatory action. It was ascertained that the deceased was in the habit of taking a strong infusion of corn poppy, (*papaver rhœados,*) which, when administered to dogs, produced appearances identically the same. The inference was obvious.

It will thus appear, that in attempting to form a judgment as to the precise nature of any coloration of the alimentary mucous membrane, there are numerous sources of fallacy which it is important to avoid. It is in the stomach that most of these pseudo-morbid appearances occur, but many of them likewise are to be met with in the intestines. They may be classed as follows: — 1st, those which are produced antecedent to death, and 2nd, those which are strictly post-mortem or cadaveric. Under the former are comprehended, 1, those produced by the stimulus of digestion; 2, those resulting from long abstinence; the result of passive hyperæmia toward the close of life; 4, such as arise from a disturbed state of the circulation owing to a retardation in, or obstacle to, the free return of the venous blood. Under the cadaveric may be enumerated, 1, that arising from post-mortem hypostasis, which is sometimes accompanied with cadaveric hemorrhage; 2, that produced by contact with a vascular body like the spleen; 3, those stains or streaks resulting from transudations of the blood through the coats of the larger vessels, more especially of veins; 4, that produced by the action of gases evolved into the cavity of the intestine, upon the blood contained in its vessels; 5, that from imbibition of the bile; 6, that from contact with some colored fluid in the intestine forming part of the ingesta; and, lastly, that produced by the action of the gastric acid, of which we have yet to speak.

Attenuation or thinning of the mucous membrane is occasionally met with as a morbid phenomenon. We sometimes, however, find it caused mechanically by a continued distention of the tube. Thus Billard relates a case in which he found a mass of lumbrici in a portion of small intestine, which was so distended by them that it almost equalled the cœcum in volume, and its wall was so thin as to permit the worms to be seen coiled up in its interior. We lately examined the body of a young girl, in which the cœcum was distended with fæces to such a degree that it extended across the upper outlet of the pelvis to the left iliac region. From the excessive attenuation of the wall of the intestine, the fæces were distinctly visible through it.

Softening of the mucous membrane is an alteration of texture which equally takes place under the influence of morbid causes as of others of a different nature. Nobody denies the existence of softening of the gastro-intestinal mucous membrane consequent upon inflammation; but it may reasonably be doubted whether it arises from that cause so frequently as has been supposed. Neither can this alteration of consistence be considered as a frequent result of the putrefactive process, for unless the membrane be exposed to air, we find that it softens slowly. Andral has found its consistence unimpaired eight or ten days after death, and in bodies which exhibited abundant signs of advanced putrefaction. Even when exposed to the air it softens slowly, as Billard did not perceive any change till the sixth day of the exposure of a portion of mucous membrane, and in a situation where the sun's rays could exert their full influence upon it. Hence we may with reason reject putrefaction or decomposition from the list of causes of this alteration, seeing that the majority of post-mortem examinations take place within forty-eight hours after death.

To John Hunter we are indebted for the first notice of what must be considered a very important fact, viz. that in the body of an individual dead soon after digestion has commenced, the mucous membrane of the stomach, the great end especially, may be found dissolved, and even the wall of that viscus perforated, and this through the solvent power of the gastric juice, 'that menstruum which the stomach itself has formed for the digestion of food.' Without inquiring into the grounds on which so many subsequent writers or experimenters attempted to refute or deny Hunter's hypothesis, we shall content ourselves with referring the reader to Dr Carswell's very able paper on this subject, in which he will find the opinions of Jæger, Laisné, Gairdner and others, fully discussed, and pass on to state the facts which appear fully to establish the original opinion of the great British physiologist. The first circumstances in favor of this opinion are those related by Hunter himself, viz. the fact of having found a solution of the stomach in two persons killed suddenly and shortly after having taken food; the frequency of the solution in fishes, who generally died of violence, and with the stomach full, and in other animals killed violently and during digestion.

Spallanzani, Adams, Cooker, and Carlisle afterwards confirmed these experiments. Some failures, however, occurred in the attempts to produce this phenomenon at pleasure in animals, and hence the confidence of subsequent experimentalists was somewhat shaken. Some observations strongly corroborative of the Hunterian doctrine were published by Allan Burns; he found the stomach dissolved and perforated, and not only this, but every viscus with which the fluid that escaped from the stomach came in contact was also softened in its walls; and as a still further confirmation, he observed, on examining the body two days after his first inspection, that the solution had extended considerably. Recently Dr Carswell, in the paper above referred to, has fully succeeded in proving that this softening takes place in healthy animals killed during digestion, and that, in whatever part of the stomach 'this function was going on most actively, or an accumulation had taken place of the products of secretion, there the organic alterations had also occurred.' Finally, a case occurred to Dr Sharpey, as related, by Dr Christison, precisely analogous to that of Mr Burns. 'On proceeding to open the body of a child for the purpose of dissecting the nerves, he remarked that the stomach was perforated and gelatinized, but the adjoining parts uninjured. He then sewed up the body in order to show the appearances to some of his friends next day. By that time the peritoneal surfaces of the spleen and left kidney were found much softened and pulpy where they lay in contact with the hole in the stomach.'

Such, then, is the evidence upon which we would attribute a form of softening (and perhaps the most frequent) of the mucous membrane of the stomach to the action of the gastric juice, and it may be added that this action may go on to produce a perforation of the wall of the stomach. The softening is generally observed at the most depending part, most commonly the great sac: here the membrane appears like jelly, yet hardly so firm. 'When raised between the fingers the coat crumbled to pieces like a recent pseudo-membrane,' and often the serous coat is similarly softened. The only alteration of color in the mucous membrane is that of being rendered rather whiter than the natural hue. The perforations resulting from this cause of course vary in extent according to that of the softened tissues; we find them, therefore, of all sizes, sometimes so great as to involve a considerable portion of the stomach. The margins appear half dissolved, fringed, and generally formed of the serous membrane, and for a considerable distance round the mucous membrane is gelatinized. Moreover, as has been first noticed by Dr Carswell, the bloodvessels distributed on the softened parts and also on every part which had come into contact with the fluid, were altered in color, so as to form brownish, brownish black, or pure black arborescences. When the fluid could not come in contact with the membrane, the vessels exhibited their natural color. It may be stated further that the fluid found in these stomachs at once reddened litmus. In the instances of this form of perforation which have occurred in the human subject, no symptoms whatever of gastric disease were present before death, the patients having died of disease of some other organs or by violence. Thus, according to an abstract which we take from Dr Christison's work, it has been found in women who died of convulsions after delivery, in children who died convulsed or of hydrocephalus, after death from suppuration of the brain both idiopathic and traumatic, from diseased mesenteric glands, from nervous fever, and after sudden death from fracture of the skull and hanging.

The softening of the mucous membrane thus formed is to be distinguished from that which is the result of morbid irritation during life, as well as of that produced by the introduction of irritant poisons. Cruveilhier has described a condition of this membrane in the stomach of children, which he calls '*ramollissement gélatiniforme.*' This softening, like that above described, extends to the other coats of the stomach and even causes perforation. In short, this affection described by Cruveilhier has the strongest possible resemblance to the pseudo-morbid softening of Hunter; but the evidence adduced in favor of its morbid character is derived from certain symptoms supervening a short time before death. We know of no means whereby we can distinguish between these two alterations, except, perhaps, the dark color of the blood contained in the vessels of the softened part, which, if the alteration described by M. Cruveilheir were the effect of morbid irritation, would not be likely to occur. On the whole, however, we are strongly disposed to the opinion that the *ramollissement gélatiniforme* of Cruveilhier is a pseudo-morbid phenomenon, and identical with that caused by the action of the gastric juice.

In a true pathological softening there are uniformly present some additional signs of inflammation; thus, we sometimes have redness of the membrane, and generally an increased opacity and a thickening of the submucous tissue; and it may be indifferently found on all parts of the stomach, even where the gastric juice could not come in contact with it; moreover, here likewise we have not the black discoloration of the blood which is a remarkable character of the softening by the gastric juice.

The perforation which results from this softening must be distinguished from that caused by inflammation or by rupture. The existence of signs of inflammation in the serous membrane would be unequivocal evidence; but sometimes the perforation or rupture occurs at too short a time prior to death to allow of the production of peritoneal inflammation, in which case the appearance of the margin of the opening, the state of the surrounding membrane, and of the submucous tissue, will assist in forming a conclusion.

We have alluded to the effect which the gastric fluid produces when brought into contact with the blood in the vessels of the stomach. The effect is nearly similar to that produced in the case of poisoning by acetic acid, related by Orfila in the Annales d'Hygiène for July, 1831, namely, a black or brownish black discoloration of the blood, without affecting the coats of the vessels. In the instance under consideration, however, the discoloration is not so extensive as in that of poisoning by the acid, the quantity of acid in the gastric juice being so small. But we sometimes meet with a brownish black discoloration from morbid action, which may be distinguished chiefly by the fact of its occupying the villi of the membrane, and by the gradation through which the color passes from red to brown, and from brown to black; to which we may add that the discoloration by the gastric juice is most conspicuous in the large trunks. The absence of all appearance of transudation, as well as the state of the other tissue, will sufficiently indicate that the black color is not caused by putrefaction.

In the parenchymatous viscera of the abdomen there are no pseudo-morbid appearances worthy of notice; they are chiefly such as are produced by mechanical obstacles to the free course of the blood, or such as are caused by the operation of the principle of gravitation. In some bad states of the blood the liver and spleen have been found softened in their texture to such a degree that they also appeared to be thus altered by putrefaction; however, in general, the effect of putrefaction is to diminish the size of those organs, while the reverse often takes place in the case to which we allude.

[To be continued.]

ART. IV. — BEAUMONT'S EXPERIMENTS ON DIGESTION.

WE acknowledged the receipt of this valuable contribution to Physiological Science in a former number, and perhaps owe an apology to its author, as well as to our subscribers, for not having followed it, before now, with a more extended notice. Our engagement to this duty is not forgotten, but only postponed until the various facts and inferences have been sufficiently examined to enable us to present our readers with such an account of Dr Beaumont's labors as shall be worthy of their important results, and of the industry and talents of the experimenter.

In the mean time we present herewith a table of Inferences, with which he concludes his volume: —

1. That *animal* and *farinaceous* aliments are more easy of digestion than *vegetable.*
2. That the susceptibility of digestion does not, however, depend altogether upon *natural* or *chemical* distinctions.
3. That digestion is facilitated by *minuteness* of *divisions* and *tenderness* of *fibre*, and retarded by opposite qualities.
4. That the *ultimate principles* of aliment are always the same, from whatever food they may be obtained.
5. That the action of the stomach, and its fluids are the same on *all kinds* of diet.
6. That the *digestibility* of aliment does not depend upon the *quantity* of nutrient principles that it contains.
7. That the *quantity* of food generally taken, is more than the wants of the system require; and that such excess, if persevered in, generally produces, not only functional aberration, but disease of the coats of the stomach.
8. That *bulk*, as well as *nutriment*, is necessary to the articles of diet.
9. That *oily* food is difficult of digestion, though it contains a large proportion of the nutrient principles.
10. That the *time* required for the digestion of food, is various, depending upon the quantity and quality of the food, state of the stomach, &c; but that the time ordinarily required for the disposal of a moderate meal of the fibrous parts of meat, with bread, &c, is from three to three and a half hours.
11. That *solid* food, of a certain texture, is easier of digestion than *fluid.*
12. That stimulating *condiments* are injurious to the healthy stomach.

13. That the use of *ardent spirits always* produces disease of the stomach, if persevered in.

14. That *hunger* is the effect of *distention* of the vessels that secrete the gastric juice.

15. That the processes of *mastication, insalivation* and *deglutition*, in an abstract point of view, do not, in any way, affect the digestion of food; in other words, when food is introduced directly into the stomach, in a finely divided state, without these previous steps, it is as readily and as perfectly digested as when they have been taken.

16. That *saliva* does not possess the properties of an alimentary solvent.

17. That the *first* stage of digestion is effected in the stomach.

18. That the natural *temperature* of the stomach is 100° Fahrenheit.

19. That the temperature is *not elevated* by the ingestion of food.

20. That *exercise elevates* the temperature; and that *sleep* or *rest*, in a recumbent position *depresses* it.

21. That the *agent* of chymification is the *Gastric Juice.*

22. That it acts as a *solvent* of food, and alters its properties.

23. That its action is facilitated by the *warmth* and *motions* of the stomach.

24. That it contains free *Muriatic Acid* and some other active *chemical* principles.

25. That it is never found *free* in the gastric cavity; but is always excited to discharge itself by the introduction of *food*, or other irritants.

26. That it is secreted from vessels distinct from the mucous follicles.

27. That it is seldom obtained pure, but is generally mixed with mucous, and sometimes with saliva. When pure, it is capable of being kept for months, and perhaps for years.*

28. That it *coagulates* albumen, and afterwards *dissolves* the *coagulæ.*

29. That it *checks* the progress of putrefaction.

3C. That the pure gastric juice is fluid, *clear*, and *transparent; without odor;* a little *salt*, and perceptibly *acid.*

31. That like other chemical agents, it *commences* its action on food, as soon as it comes in *contact* with it.

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* I have now [Nov. 1, 1833] in my possession, some clear gastric juice, possessing all its original properties, unchanged and undiminished, which was taken from the stomach in Dec. 1832, about eleven months ago, and has been kept tightly corked in vials.

32. That it is capable of *combining* with a certain and fixed *quantity* of food, and when more aliment is presented for its action than it will dissolve, disturbance of the stomach, or 'indigestion,' will ensue.

33. That it becomes intimately *mixed* and *blended* with the ingestæ in the stomach, by the motions of that organ.

34. That it is *invariably* the *same substance*, modified only by *admixture* with other fluids.

35. That *gentle exercise* facilitates the digestion of food.

36. That *bile* is not ordinarily found *in the stomach*, and is *not* commonly *necessary* for the digestion of food; but

37. That, when *oily* food has been used, it assists its digestion.

38. That *chyme* is *homogeneous*, but variable in its *color* and *consistence.*

39. That towards the *latter stages* of chymification, it becomes more *acid* and *stimulating*, and passes more rapidly from the stomach.

40. That *water*, *ardent spirits*, and most other *fluids*, are not affected by the gastric juice, but pass from the stomach soon after they have been received.

41. That the *inner coat* of the stomach, is of a pale *pink* color, varying in its hues, according to its full or empty state.

42. That, in health, it is constantly sheathed with a *mucous* coat.

43. That the gastric juice and mucus are *dissimilar* in their *physical* and *chemical* properties.

44. That the appearance of the interior of the stomach, *in disease*, is essentially different from that of its *healthy* state.

45. That the motions of the stomach produce a constant *churning* of its contents, and *admixture* of food and gastric juice.

46. That these motions are in two directions; *transversely* and *longitudinally.*

47. That the *expulsion* of the chyme is assisted by a *transverse band*, &c.

48. That *chyle* is formed in the duodenum and small intestines, by the action of *bile* and *pancreatic juice*, on the chyme.

49. That crude *chyle* is a *semi-transparent*, *whey colored* fluid.

50. That it is further changed by the action of the *lacteals* and *mesenteric glands.* This is only an *inference* from the other facts. It has not been the subject of experiment.

51. That *no other* fluid produces the same effect on food that gastric juice does; and that it is the *only solvent* of *aliment.*

COLLECTANEA.

FRACTURES OF THE NECK OF THE OS FEMORIS.

By simply raising the thigh so as to bend it on the belly, and using moderate traction, the leg being semiflexed and the pelvis fixed by assistants, reduction is accomplished, the limb regaining its natural length, and the foot its usual position. This is owing to the relaxation of the abductor muscles which had turned the foot outwards, and of the glutei and others which had drawn upwards the inferior fragment. If then the demiflexed position is the best to reduce the fracture, and to maintain it reduced, it follows that the best apparatus is that which retains the muscles semiflexed; this is the principle laid down by Pott, but singularly it was not applied by him to fractures of the cervix femoris. M. Dupuytren forms his double-inclined plane with pillows. A pillow rolled into the cylindrical form of a bolster and retained in this shape by tapes, is to be placed at the top of two inclined planes, formed by many pillows placed one above the other, and united by sewing them together by one of their borders. One of these oblique planes extends from the ham to the tuber ischii, the other from the ham to the heel, their apex being at the angle of union of the thigh and leg. The thigh is to be fixed by a cloth folded 'en cravate,' passed over its middle, and its extremities are to be tied to the sides of the bed in a direction towards its foot; a similar bandage is to be placed on the anterior surface of the leg or the instep, and its ends fastened to the sides of the bed, in a direction towards its head. During the first month the thigh must be raised daily or nearly so, at the same time drawing it gently downwards, in order that both fragments may be in contact. When it is probable that consolidation has taken place, the double-inclined plane is to be gradually lowered, by removing from time to time one of the pillows which form it, until they are all removed. The patients should keep their beds some days after this, and then should gradually commence walking, with great precautions. By employing this treatment, the fracture is consolidated without shortening, or at least with but little shortening, which is easily remedied by one heel being made rather higher than the other. Another advantage of this apparatus is, that it neither occasions pain nor uneasiness, which is of peculiar importance, when it is considered that old people are generally the subjects of this injury, in whom the work of reparation is particularly slow. Two cases are given of fracture of the neck of the thigh-bone; in the 1st, which occurred in a man 58 years of age, the pillows were removed about the 92d day after the injury, and no shortening had taken place — he could then move his legs with ease; on the 110th day he could walk easily with crutches. The 2nd case was that of a woman, aged 67; about the 65th day the apparatus was gradually removed — consolidation had taken place, and both limbs were of the same length. On the 85th day she left the hospital, cured, and using her limb very well. — *Med. Chir. Rev.*

MINERAL AND THERMAL SPRINGS.

As we might naturally expect, the most generally diffused and most prédominating ingredients are the alkaline and earthy salts; and of these, such as have for their bases soda, lime, magnesia, and alumina, all substances which enter largely into the composition of the solid crusts of the globe, are much more prevalent than those of potassa, ammonia, baryta, &c. Lithion has been hitherto found only in very few springs, as those of Ems, Pyrmont, Karlsbad, and Kreuznach. The acids which are the most generally and largely diffused are the carbonic, muriatic, and sulphuric; they are, as a matter of course, in union with the alkaline and earthy basis; and thus are generated the various neutral salts; those hitherto discovered in mineral waters are — the sulphates of soda, magnesia, lime, alumina, potash, baryta, and of lithion; — the muriates of soda, magnesia, lime, potash, alumina, ammonia, and of lithion; — the carbonates of soda, lime, magnesia, alumina, potash, and of lithion; — the phosphates of soda, potash, alumina, and lime; — the fluate of lime — the borate of soda — and the nitrates of potash and of lime. The three last classes of neutral salts are very rare, and have been hitherto detected only in minute quantities. The discovery of the salts of lithion has been made by Berzelius in the waters of Karlsbad, Franzenbrunn, Marienbad; by John, at Gleissen in Brandenburgh; and in a few of the Pyrmont springs by Brandes and Krüger. It is probable that they exert little influence on the medicinal properties of the waters; yet the fact of their presence is most interesting, from their rarity, even in the mineral crust of the globe; whether they are more largely distributed in the treasures of the bowels of the earth, is a problem for future inquirers. The number of metallic salts which have been found in springs is small, and their quantity is generally very limited. Iron is by far the most abundantly diffused, and, indeed, scarcely any mineral water is destitute of it. Manganese has been found in the Karlsbad Sprudel, and the waters of Saidschutz and Kreuznach — zinc in the mineral water of Ronneby, in Sweden, and copper, although it has not hitherto been detected in any true spring, exists freely in the pools of copper-mines, of Glamorganshire in Wales, Fahlun in Sweden, and Neusohl in Hungary. Silica, from its very sparing solubility, seldom exists in any quantity, except when mechanically suspended; in a state of minute division, it is found in a great number of cold springs, mineral as well as common, and it is a curious and interesting fact, that it is much more prevalent and more abundant in the springs of low, calcareous, and sandstone districts, than in those waters which flow over rocky and siliceous channels, in mountainous regions. Chemically dissolved, it is found only in thermal springs, or in cold ones, which contain a large quantity of soda, or of carbonic acid in excess. By far the most striking examples are the boiling springs of Geyser and Rycum, in Iceland, where it amounts to one-half of all the solid constituents, the former containing 5.40, the latter 3.73. Iodine was discovered by Balard in the waters of the Mediterranean, and by Pfaff in those of the Baltic. In 1820, M. Angelina detected it in the saline waters of Sales, in Piedmont, which contain one-twelfth of muriate of soda, and where it was till then unknown, although these waters had been repeatedly before carefully analysed. It always exists naturally in the form of a hydriodate, generally of soda, more rarely of potass. It has since been found in a great many springs, as in those of Genesio and Castel Nuovo — of Bonnington, near Edinburgh — of Leamington, Cheltenham — of Saltzhausen, near Frankfort, of Kreuznach, Heilbrunn, and Halle.

Besides the solid ingredients of mineral waters, there are several gaseous substances, which not unfrequently exist in very considerable quantities, and impart to them decided and characteristic properties; by far the most abundant of these is carbonic acid gas, which, when present in excess over the other ingredients, communicates a sparkling effervescence and an exhilarating sharpness to the waters; such are termed acidulous. The most celebrated are the Karlsbad, Pyrmont, Seltzer, Spa, Cheltenham, Tunbridge, &c. Carbonic acid escapes also in large quantities from the earth, in the form of gaseous springs, or solfataræ.

'Indeed Berthier has hazarded an opinion, which is perhaps the most correct view of the subject, that the gas which escapes with such profusion from many acidulated thermal wells, on their coming in contact with the external air, has never been in a state of combination with the water, but is an independent stream of carbonic acid discharged by the same fissure as the mineral water, and is far too copious to be absorbed by the latter. For, not to mention the immense evolutions of carbonic acid which are consequent upon every eruption of Vesuvius, and many other volcanoes, its quiet and peaceful exhalation is a phenomenon of very frequent occurrence in many different parts of the globe.'

It is not our intention to expatiate on the medical properties of the different classes of springs; a remark or two will suffice. Those who contend that the salutary effects of any spring may be inferred from its chemical composition are much at fault; for Murray has most ably shewn, that in our analyses, we often obtain a mere *product* and not the *educt* of the waters.

'The effects of a spring (says our author most justly) are often decidedly the reverse of what we should expect from its known chemical composition. Sometimes even, as has been more than once hinted in the foregoing part of this essay, common drinking springs contain more mineral matters than medicinal waters of great reputation; nay, in many of very great celebrity, chemistry has been able to detect so few active ingredients, that several have attributed their virtues solely to the great purity of their water. If this be the case with cold springs, it will certainly hold with increased force in regard to those possessing an elevated temperature. Warmth not only enables them to hold in solution a much larger quantity of active ingredients, but will give to very minute quantities a vastly increased activity; and finally renders soluble those deemed least so, as silica itself.'

The singularly beautiful speculations of Dr Murray have certainly tended to throw considerable light on the medical history of mineral waters. In order to illustrate his views, let us take the Dunblane water; it contains sulphate of lime and muriate of soda; the former a wholly inert, and the latter in small quantities, not a very active substance; but if the constituents of these salts are interchanged, a muriate of lime and a sulphate of soda will be formed; and the quantity of the former ingredient will readily account for the efficacy of the spring in scrofulous complaints, and its cathartic powers will be referable to the Glauber salt; — indeed on no other supposition are these explicable; for the water contains no other ingredient to which we can ascribe these qualities.

Another consideration which ought to be borne in mind, and which should stimulate us to still more exact and rigidly-searching methods of analysis, is, that perhaps undiscovered principles or elementary substances exist in many of the most efficient springs; — and we are also to remember, that in many, perhaps in all, there are certain volatile ingredients which elude detection, even by the most delicate analysis. We know what a powerful influence in modifying the solid contents of a water is exerted by minute quantities of carbonic acid and of sulphuretted hydrogen; and we may fairly presume that similar or more powerful effects may be produced by other gases, which we have failed hitherto in discovering. No one suspected the presence of such an active ingredient as iodine in the saline waters of Sales in Piedmont, which had for ages before been celebrated for the cure of scrofula and bronchocele, till Angelina discovered it in 1820; and it is only within the last few years that the brine springs of Ashby de la Zouch in England, and of Kreuznach in the Palatinate, have been shewn by Danbery and Liebig to contain an unusually large proportion of the very potent principle — the hydrobromate of magnesia.

Little wonder, then, that the artificial mineral waters have so much fallen short of, in medical virtues, their natural prototypes. Formerly, in the days of Nooth and Schweppe, nothing was thought necessary in their preparation, except the appropriate employment of a simple compressing apparatus; but Struve of Dresden has by his unwearied and scientific labors brought the manufacture to infinitely greater precision and accuracy; he has succeeded in imitating perfectly some of the waters, as those of Karlsbad, but has failed in other attempts; thus his Ems water is much stronger and more violent than that of the natural springs. He is also obliged to admit that he has never yet been able to imitate satisfactorily those waters whose salutary efficacy does not correspond with the apparent insignificance of their mineral impregnation. — *Med. Chir. Rev.*

SEMINAL EMISSIONS.

'The second variety, as it depends upon weakness and irritability, is much less tractable, and often baffles the most judicious treatment for a great length of time. The indication of cure, so far as diet is concerned, is the direct contrary of the other variety, since abundance of nutritious food, to communicate strength and invigorate the system, is an indispensable requisite of the medicinal treatment. Stimulants of all kinds must be carefully avoided, or used in great moderation under special circumstances when great languor and lassitude prevail. The patient should also be abstemious in liquids. He should not indulge in habits of a relaxing nature. Instead, therefore, of sleeping on a soft feather-bed, he should lie on a firm mattress, with the air of the room at a moderate temperature, and he should not allot many hours to sleep. He should pass much of his time in the open air in a cool atmosphere, take frequent and moderate exercise, neither used so long, nor pushed so far, as to occasion fatigue. Cold bathing, too, is a useful auxiliary. Even local cold bathing, frequently repeated, is of advantage; for which purpose, a vessel of cold water may be placed at the bedside, and a wet cloth applied occasionally to the testicles. Great attention should be paid to preserve the general health unimpaired; and, with regard to particular medicines, there are none more serviceable than the different preparations of iron.

Besides the above practices, which relate to the state of the body, it is of great consequence to attend also to the state of the mind. With this view, the patient should banish from his thoughts every lascivious idea, and abstain from reading any book addressed to the imagination on matters of love. And as patients affected with these complaints are apt to despond, and to be troubled with low spirits, every recreation should be encouraged, to prevent them of thinking of their own situation, and, if possible, to keep them amused, or at least to keep their minds occupied with objects which engross the whole of their attention; the patient, at the same time, courting the society of lively and agreeable company. By uninterrupted perseverance in this mode of treatment for a sufficient length of time, the patient may reasonably entertain hopes of obtaining a radical cure.

We think that the great art and great difficulty of treating these cases consists in giving tonics to a certain point and no farther. If we give too much, if we stimulate, the patient becomes feverish, and is rendered worse; if we deplete, he is rendered worse also. Early hours, attention to the state of the bowels and of the digestive organs, relaxation of the mind, country air, the shower-bath cautiously begun and judiciously persevered in, with properly regulated sexual connexion, are the means which we have found most beneficial. — ***Russell's Observations on the Testicles.***

INFIRMITIES OF GENIUS.

'Scott's sensibility,' says Mr M. 'fortunately for his felicity, was not of that intense description that its tranquillity was staked on the hazard of his literary success, or that the labor of composition was coupled with the anxieties of authorship, the ardor of enthusiasm, or the ecstasies of successful genius. In this respect Scott had the decided advantage over the majority of the *genus irritabile* of authors, whether of works of prose or poetry. Pope could not proceed with certain passages of his translation of Homer without shedding tears. Metastasio was found weeping over his Olympiad. Alfieri speaks of a whole act in one of his plays written under a paroxysm of enthusiasm, weeping while he wrote it. Dryden was seized with violent tremors after the composition of his celebrated ode. Rousseau, in conceiving the first idea of his Essay on the Arts, felt the disturbance of his nervous system approaching to delirium. Buffon could not enter on a work which absorbed his faculties, without feeling his head burn, and his features becoming flushed. Beattie, after the completion of a volume of metaphysics, never had the courage to look into the book when it was printed, so great was the horror of his undertaking. Goldoni says he never recovered from the exhaustion of his spirits after the production of sixteen comedies in one year. Smollet by over-excitement disordered his brain, and labored for six months under a coma vigil. These and many other instances have been enumerated by D'Israeli, in his admirable work. Scott, however, was luckily exempt from the excitement of such morbid feelings, and from the delusions which are the consequences of them. It is but a step, it is said, which separates the fervor of enthusiasm from the frenzy of insanity, and not unfrequently are the children of genius found tottering on the verge of that calamity. Tasso held a conversation with a spirit gliding on a sun-beam, and we are told by Thuanus, he was frequently seized with fits of distraction which did not prevent him from writing excellent verses. Malebranche heard the voice of God distinctly within him. Lord Herbert interrogated the Deity about the publication of his book, and in a kneeling posture calmly awaited the reply. Pascal often started from his chair at the appearance of a fiery gulf opening by his side. Luther conversed with demons, and on one occasion threw an inkstand at the devil's head, an action which his German commentator greatly applauds, because there is nothing the devil hates so much as ink. Descartes, after long seclusion, was followed by an invisible person calling on him to pursue the search of truth. Swedenburg not only walked over Paradise, but has given a description of the fashion of the houses ; but the glorious egotism of Benvenuto Cellini, says D'Israeli, outstripped the visions of all his predecessors, for he was accustomed to behold a resplendent light hovering over his own shadow.' — *Dr Madden.*

Practical Chemistry Recommended to Physicians.

In the present day, when the attention of medical men is once more specially directed to the composition of the animal fluids, and when the foundations of a rational and restricted humorism are probably again laid, or are in the act of being so; and moreover, now that the standard of professional qualifications is daily becoming more and more scientific, as appears from the existing rivalry of the different schools and universities throughout the kingdom, it is highly important, if not absolutely necessary, that a competent knowledge of manual chemistry be acquired by all. We are glad to observe that this study is becoming more popular, and that numerous classes have recently been established for its institution. If the knowledge of science be considered, as it most properly is by all, a necessary branch of medical education, surely a practical acquaintance with the facts on which the science is built, or, in other words, with the art of chemistry, is equally or still more so.

Do we not recognise the truth of this position in the cases of anatomy and of materia medica? Do we not require that the student take the scalpel into his hand, and diligently and patiently examine for himself every part, that he may know them by sight and by feeling, as well as that he may describe them with accuracy and minuteness? And again, are we satisfied with his skilful answers about the names, localities, uses, compositions, and so forth, of the different drugs in the Pharmacopœia? No, we expect and insist that he should have handled each and all of them, that he can recognise them at once, and be acquainted with the manipulations of preparing and of exhibiting them. Surely, then, it is of equal, or rather of still higher importance, that he be well informed in the details of practical chemistry. How, we ask, can a medical jurist dispense with it? and none of us can know when we may be called upon to act as such. Is not the army and naval surgeon frequently desired to investigate and report upon cases of poisoning? and how can they do so, unless they know the tools that they must work with, and the right method of using them?—*Med. Chir. Rev.*

Female Catheter Slipped into the Bladder.

During the last year I was requested by a medical friend to meet him in consultation on a case, where he had permitted a silver catheter to slip into a lady's bladder. The patient had a few weeks previously a severe labor, producing paralysis of the bladder, and rendering the introduction of the catheter necessary night and morning. A few hours before my visit, her medical attendant, in attemping to draw off the water, experienced some difficulty, and whilst making more pressure than usual, the catheter slipped into the bladder. He immediately attempted to reach it with his dressing forceps, but failed.

I advised him to wait until it became necessary to draw off the water again, then pass a longer catheter, and indeavor to discover its position ; but it could not, however, be detected, and the operation was repeated several times before it was felt.

The following plan was then tried : — A piece of sponge tent, somewhat longer than a common female catheter, and of the size of the little finger, was passed into the bladder, without difficulty or giving pain, and allowed to remain eight or ten hours, during which time the water passed freely through it. At the end of that period it was removed, and the fore finger of the left hand passed readily into the bladder. The catheter was felt lying across, one end resting on the pubes, and the other imbedded in the folds at the back part of the bladder There was considerable difficulty in bringing it into the urethra, which was effected by carrying the fore finger of the right hand into the vagina, and pressing the bladder backwards and upwards, which brought that part of the instrument lying over the pubes within reach of the other finger, and then into the urethra, from whence it was readily removed by the dressing forceps. All this was effected with very little pain, and without the patient or her friends even being aware of what had happened. The instrument, which was one of the sliding short catheters recommended by Mr Jewel, remained in the bladder fifteen days, producing but very slight irritation.

This is, I believe a very rare accident ; and on looking at the catheters which are generally in use, one only feels surprised that it does not happen more frequently, as there is not sufficient guard to prevent it. Mr Abernethy used to relate in his lectures a case of this kind, where the catheter was not extracted ; and a long time afterwards an abscess formed in the side, which was opened and discharged freely for some days, when, on passing a probe, a hard substance was felt, and extracted with a pair of common forceps, which proved to be a catheter.

Sir Astley Cooper lately obligingly shewed me a drawing of a calculus formed over a catheter which had got into the bladder, and which he removed by the usual operation some years since at Guy's Hospital. To this gentleman I am indebted for suggesting the plan which proved so successful in this case.

I observed in this case that the whole internal lining of the vagina was in a sloughing state, which I think very frequently occurs after laborious parturition, where the head rests for many hours in the vagina. Although I do not remember to have seen it noticed, much of the soreness and pain which women complain of after such labors arises, in my opinion, from this cause, and would probably lead to adhesions, if nurses did not use the precaution of smearing the parts frequently with ointment.

Med. Gaz.

ON THE CIRCULAR AND FLAP OPERATION.

By R. TOLEFREE, Jr. M. D.

If the time of amputating after a sufficient injury has given rise to discussion, the manner has furnished equal cause for controversy. Parties in our profession array themselves against each other without sufficient reason; and if a favorite leader only proclaim some novel or antiquated doctrine, the sound is considered the signal for the onset; pens are sharpened, and paper is spread to be stained with the effusions of malice, anger, and despair. We have desired in vain to see an end of these petty feuds, and the abolishment of Medical clans, the existence of which perpetuates hostilities, and embitters the temporary intercourse necessary among practitioners. We cannot solace ourselves with the hope of realizing the desirable advent of the halcyon days of medical union and brotherly love. Early education often shackles us with partiality, while similarity of sentiment begets respect and blinds us to truths, because they are unlike those we have cherished. National prejudices conspire to strengthen sectarian views; time increases our attachment to the deformed child we may have adopted, and hostility or the enmity of our neighbors only causes us to hug the imagined beauty more closely to our bosoms. These feelings have had no small share in producing the discrepancy between the exclusive defenders of the circular or flap operation. Sir George Ballingall in his late work on Military Surgery, has entered the arena to close the contest, and while his object is commendable, his conclusions appear to us erroneous. We will cite the professor, page 60, Military Surgery.

'I know of no comparative estimate of the results of amputations performed by the circular incision and by the double flap, which will enable us to decide their respective merits by the test of experience; but in instituting any comparison between these operations, one of the first circumstances which strikes a surgeon is the different extent of cut surface left by one operation and the other. It has long appeared to me that the difference in this respect is much greater than many surgeons are aware of; and I have often remarked, that the extent of cut surface exposed by the double flap operation, appeared to me nearly double that left by the circular incision. I was not however aware, until within a few days, that in making this statement I was so near the truth. Wishing to ascertain the relative proportions *with precision*, I submitted the matter to two scientific gentlemen, Mr Robinson, Secretary of the Royal Society, and Mr Russel, the lecturer on Natural Philosophy, each of whom came to the same conclusion. Supposing the limb cylindrical, and the amputation performed in the old way, by cutting at once down to the bone, and then dividing it by the saw, the cut surface exposed would be the least which it is possible to expose by any mode of operating. Supposing again, that the limb is amputated by the double flap operation, and that the length of each flap is exactly equal to the breadth of its base, the quantity of cut surface exposed by this operation would be rather *more* than double that exposed by the former. Or in other words, supposing the limb to be cut represented by a cylinder three inches in diameter, then, if the section be made at right angles to its length, the area of the surface exposed will be 7.05 inches nearly. If the section be made again by two flaps of the proportions formerly mentioned, the area of the surface exposed will be 15.5 inches, nearly being the area of an ellipsis formed by the section of a cylinder whose length is twice its diameter.'

The professor supposes what cannot happen, that the stump in a single circular incision shows a smooth face like a board or stick, and this surface is perpendicular to the length of the bone; and he also supposes there is no retraction of the muscles to make the incision have an irregular aspect. Both of these assumptions are at variance with facts, and we cannot grant the doctor what he requires in support of his inferences. Let us, however, take the circular operation with a double incision, and we will see the difference between it and the double flap; and at the same time allowing the doctor's manner of reasoning to be adopted. I will commence with the double circular incision, and follow the best authorities in their direction for operating. S. Cooper says, 'In a thigh of ordinary dimensions, the first incision should be made four inches below where it is intended to saw the bone.' Let us suppose the limb to be 18.8496 inches in circumference, (and this is not far from the ordinary periphery of the thigh at its upper third), and dividing this number by 3.1416, we have a diameter of six inches. The figure presented by the stump in this operation we will give in the words of Guthrie. 'It is generally allowed that the appearance of the stump when the bone is sawed through should be that of a broad inverted cone, the bone forming the apex.' Here we have a cone by the circular operation, the distance of which from the centre of the base to the apex being four inches, and half its base is three inches, and these two lines, (distances), from the base and perpendicular of a right-angle triangle, from which data we can find the hypothenuse or slant height of the cone. Thus, the square of 4 added to the square of 3, equals 25, and the square root of 25 is 5, which is the slant height of the cone. Now, to find the convex surface of this cone, you must multiply the circumference of the base by the slant height, and half this product will be the superficies required. Thus 18.8496 × 5 =

94.2480 ÷ 2 = 47.1240 inches, the surface of a stump from the circular operation. In this supposition we have considered the limb to be amputated a perfect cylinder, but it must be recollected that it is more or less conical, and having the base towards the body, it will consequently increase the size of the surface of the circular operation, and diminish, according to the decrease of the circumference of the limb, the surfaces of the flaps. This consideration has been lost sight of in the computations, and in some situations it has more bearing on the question than many imagine. We will not dwell on this, but follow the professor in *his own manner* of calculating. Let us in the second place compute the surface of the double flap on the very principles the professor establishes, 'that the length of the flap is equal to the breadth of its base.' We would simply remark that this length of flap is more than is required in every situation, and without entering the contest either as exclusive defenders of either operation, or being ranked among the supporters alone of Gallic or British practice, we as a third party, enjoying the advantages of the experience of both sides of the British channel, should weigh, candidly and logically, the disputes of our transatlantic brethren. Let us say, however, with the Doctor, that the flaps are elliptical, and we must necessarily have two elliptical segments, in each of which we have the conjugate diameter as a base equal to six inches, and we have half its transverse diameter equal to six inches, making the whole transverse diameter, if the figure were complete, twelve inches. It is plain, that if the base of these segments were in coäptation, and their surfaces in the same plane that the figure would be a perfect ellipse, the surface of which would be equal to the inner surface of the two flaps.

Multiply the transverse by the conjugate diameter, and this product by the decimal .7854, and the surface of the ellipse is the result. 12 × 6 = 72 × .7854 = 56.5488 inches, the surface of the two flaps.

With this mode of calculation a small difference exists in favor of the circular incision. It is, when stated in round numbers, about 47 for the circular, and 56 for the flap operation; or to state it so as to be better recollected, we may say that the surface of the circular wound, after the operation, is to the flat surface, as 4 to 5. The reader in this computation must not forget that those who calculate in the manner of Sir George Ballingall, base their reasoning on the supposition that the stump of the bone is cut in a pyramidal shape, when the truth is, it is the same as in the circular operation. These are trifling considerations by themselves, still when accumulated they are of considerable moment in the comparison.

We trust that by giving the steps of our calculations, we have avoided all the vagueness which has been thrown around the subject, and we must consider the differences of opinion have not arisen so much from prejudice as thoughtless conclusions. Dr Ballingall would persuade his auditors and readers, that the flap operation presents a surface more than twice as extensive as the circular operation; while Dr George Bushe, in the Lancet, in his article on amputation, would wish us to believe that it was a self-evident truth, neither requiring reasoning nor computation, that the double flap amputation leaves a smaller surface than the circular incision. Both are wrong, for the first would teach that the hypothenuse of a right-angled triangle is greater than the sum of the base and perpendicular; while the second maintains that the hypothenuse of a right-angle triangle is less than either the base or the perpendicular. I will not dwell on other points in the comparative merits of these two operations; they have been ably treated by others; and if the remarks I have made will contribute to settle the difference, I will consider it 'pretium operæ.' — *Am. Journ. Med. Scien.*

STATE OF THE UTERUS IMMEDIATELY AFTER COITUS.

In May, 1827, I was invited by Dr Samuel Tucker to examine, *post mortem*, the body of a female who had destroyed herself with laudanum. She was apparently between eighteen and twenty years of age, wellformed, and in good health. She passed a night or the most of it, *in coitu* with a young man, and before morning swallowed a large quantity of laudanum. Dr Tucker was called to her in the course of the morning, but so late that all his efforts to restore her were ineffectual. The body was opened the next morning in the presence of Doctors Tucker and Meigs. Neither the head nor chest were opened. The viscera of the abdomen, as far as they were examined, exhibited no mark of disease, but the odor of laudanum was very strong in the stomach. I removed the internal organs of generation, and took them home for examination.

The uterus was larger than I had ever before seen it when healthy and unimpregnated, and its color indicated more vascularity. The ovaries were large, extremely vascular, and situated nearer the uterus than usual. Instead of hanging loose at the distance of an inch or more, they appeared to be drawn so close to the sides of the uterus, that there was scarcely the space of a quarter of an inch between them. The Fallopian tubes were very vascular, so much so as to give them a firmer and more fleshy appearance than usual, and instead of ending in loose, floating fimbriæ, appeared to terminate by a union with the ovaries, and to be very tortuous on account of the short distance between the ovaries and the origin of the tubes. On the surface of the ovaries were seen a few small vesicles of the size of shot, projecting little or none beyond the surface of the gland, and containing a slightly turbid fluid. From the ovaries and the fimbriæ several small vesicles were seen hanging by extremely delicate pedicles, from one fourth to seven-eighths of an inch in length. They looked like pyriform drops of mucus, a little larger than the seeds of grapes, covered with an extremely delicate pellicle, which appeared to constitute the fibrils by which they were suspended. Upon cutting open the uterus, it was found to be thickly coated with a substance having the appearance and the strong peculiar odor of semen. Some of this substance was in the neck of the uterus. The Fallopian tubes, (at least the one that was laid open,) contained apparently the same matter, but whether it possessed the seminal odor was not ascertained. Upon wiping this matter from the lining membrane of the uterus, it was found to be of a vivid red, as red as the conjunctiva in acute opthalmia, or as if it had been injected with vermilion. — *Am. Journ. Med. Scien.*

INFLATION AS A REMEDY FOR OBSTRUCTED BOWELS.

The importance of inflation as a remedy for obstruction of the bowels, appears to me not to be sufficiently appreciated at the present day. It was first recommended by Hippocrates for the removal of intestinal obstruction; in more modern times, it has been resorted to by Hoffman and Haller; and notwithstanding the neglect it has since experienced, I cannot but regard it as worthy of an eminent position in the list of therapeutic agents. The treatment usually prescribed in cases of ileus or colica (without inflammation) is very discordant, as witness, — warm baths, fomentations, injections of warm water and oil, rubefacients, and blisters, — contra — cold effusion and immersion, freezing lotions, pounded ice and snow; not to mention emetics, purgatives, and mechanical distention by warm fluids, quicksilver, gold and silver balls, &c. — and when all these remedies have failed, blood-letting, tobacco, in infusion and smoke, and lastly, gastrotomy. Yet this simple means of inflation, although probably the most powerful, and the least dangerous, is entirely overlooked. It paralyzes, as it were, the constricted fibre of the bowels, and may be used in the following cases, if not with complete success, at least with advantage, viz. the various kinds of colic, proceeding from torpidity, spasmodic constriction, viscid meconium in new-born infants, impaction, bezoards, and other intestinal concretions, volvulus or intus-susceptio, and some cases of hernia. It was a happy thought of those who hit upon this means in the hour of danger, after all their other efforts had proved nugatory. For although tobacco, which is often used as a last resort, sometimes is successful, it is not uniformly so, and it too often happens, that the patient, rather than undergo a repetition of it, beseeches to be allowed 'to die in peace.' We may also observe the hesitation with which the practitioner has recourse to it, not only because of its doubtful efficacy, but on account of the danger there is of greater exhaustion being produced by it. I take the liberty of giving one case, as I conceive it may give some idea of the power of inflation.

In September, 1829, I was requested to visit Mrs G. æt. 26, of rather delicate frame. On the night previous to my visit, she experienced an uneasy sensation in the region of the stomach; for which, she took eight grains of calomel combined with a half-drachm of compound powder of jalap, without any impression on the bowels. During the night this uneasiness increased to an almost intolerable pain accompanied with obstinate vomiting, which continued till the evening, when I saw her. In the course of the day she took two doses of castor oil, and received five injections. When I entered the apartment, she was sitting near the fire, and her body bent forward; the face was wan, hollow, dejected, and of a dingy-yellow color; the surface of the body and extremities inclining to cold. Pulse 80, soft and much compressed — tongue, at the back part, covered with a brownish-colored mucus — she had obtained no alvine solution for six days. She took no notice of my being present, or of any thing going on around her, but informed me, when questioned as to the seat and kind of pain, that it was of a 'violent screwing nature, working between the stomach and navel,' coming on in paroxysms, and ending in or producing vomiting. I ordered the warm bath, and gave a teaspoonful of laudanum with compound spirit of lavender, which was soon afterwards vomited. Upon this, an effervescing mixture was given, then five drops of croton oil with some laudanum, and in about three quarters of an hour, five drops more without laudanum: but each in its turn was rejected, with a quantity of yellow-colored fluid. It was at this time, I first thought of inflation. For this purpose, I procured a pair of common bellows, and securing the bladder of a glyster-bag to the nozzle of the bellows, the pipe was introduced into the rectum, while the patient lay on her right side, and the bellows was commenced being wrought. As soon as the air entered the rectum, the effect was immediate and satisfactory; the countenance lost its anxiety, the eye brightened, and the patient said she felt quite relieved. A gurgling noise was heard in the bowel, with an escape of fœtid air; and in about a minute from the time the air began to enter the rectum, she requested to be allowed to go to stool. She had a copious dejection, and a good night's rest; and next morning complained only of being much enfeebled, but was otherwise well.

I was deeply impressed, about five years ago, with the fatal result of a case of intus-susceptio, in a fine robust infant, six months old; which was supposed to proceed from the effects of half a teaspoonful of some syrup of poppy, made, as is commonly done, with opium, given for the purpose of procuring sleep during the period of teething. About eight hours after it was given, the child began to cry vehemently, having appeared restless and uneasy for several hours previously. Early in the forenoon, it passed a very scanty stool, streaked with blood; soon after this, vomiting commenced, which continued until the little sufferer sunk. Is it unreasonable to imagine that if inflation had been used in this case, the result would have been otherwise? I was hereby shown the necessity of seeking more powerful means, than fluid injections, et cetera. And I hope, as I firmly believe, that inflation with common air is the necessary desideratum. I conclude with Dr Cheyne, that 'a man dying of ileus, presents one of the most pitiable sights in nature;' and a leading object of this paper is to remove a part of the horrors of the scene, by withholding many of the bitter doses which are forced upon him by the solicitude of his friends, and the officiousness of his physician.' — *Glasgow Med. Journ.*

PHYSICAL, ANATOMICAL AND PATHOLOGICAL CHARACTERS OF THE CICATRICES SUCCEEDING BURNS.

It is not until many weeks or months after a wound is healed that the cicatrix is completely formed, it gradually acquires a density and thickness necessary to supply the deficient skin, and at the same time diminishes in extent. This retraction does not cease until the cicatrix has become white and solid. If examined in this state it will be found to be covered by a thin, shining, and very adherent epidermis, beneath which is a dense tissue formed of fibrous layers crossed in every direction; a substance analogous to the corium; no trace of a rete mucosum remains, and consequently the cicatrix of a Black is similar in color to that of a White. This new product contains neither sebaceous follicles, nor hairs, that is, if the whole thickness of the skin has been destroyed; the cicatrix is consequently dry, and the absence of the sebaceous fluid should be supplied during the progress of retraction by oily applications, warm and gelatinous baths, &c. It is pierced with very few exhalants or absorbents, hence it is dry, whilst the surrounding parts copiously perspire. A laminated tissue, more or less compact and deprived of fat, unites the cicatrix to the subjacent parts, and is depressed in proportion to the loss of substance which it has replaced, or to the quantity of surrounding adipose tissue. If muscles, tendons, &c. have been partially destroyed, the cicatrix adheres closely to them, and they lose for a short distance their natural texture, and degenerate into a homogeneous fibrous tissue, which is intimately united with the new product. A practised eye distinguishes immediately the cicatrix of a burn from that produced by scrofula, syphilis, &c, in legal medicine this is of great importance, and no opportunities of examining such injuries should be lost. The vascularity of cicatrices is variable. Commonly there are but very few capillaries, into which it is very difficult to through injections. From the sensibility of these parts when touched or inflamed, and in changes of weather, it is probable that they receive a few nerves. Like all anormal organized products they are destroyed by inflammation with prodigious rapidity. In a few hours or days the reparatory work of many months is destroyed ; however, this distinction is often confined to the upper layer of the new product, which is speedily restored. They are generally unaffected by exanthematous diseases. Cutaneous adhesions uniting burned parts are at first large, soft, and reddish, becoming like the cicatrices more intimate and solid as their organization is completed. Subsequently they are elongated by the motion of the parts, decreasing in breadth as they increase in length, so that they are changed into thin membranous layers, their free border thickened and forming a kind of cord. Analogous at this stage to the membranes of web-footed animals, they are completely organized, and never change their form or size. Until they have attained such organic perfection they should not be subjected to surgical operations. — *Dupuytren's Lectures.*

TREATMENT OF BURNS TO PREVENT DEFORMITY IN HEALING.

In the treatment of the cicatrization of these wounds, the first remedy is position of the limb, and the general rule to regulate this is, to place the part in a position diametrically opposite to that which will favor the cicatrization of the wound by the approach of its edges. The end to be obtained by this is to form a cicatrix of the size of the skin which has been destroyed, and even of greater dimensions, as the new tissue is peculiarly retractile. Thus, if the fold of the elbow-joint, the palm of the hand, the groin, ham, &c, are burned, the limbs must be forcibly retained extended until the cicatrix has formed, and vice versâ.

But where the skin of the whole circumference of a limb is destroyed, a medium position must be preserved, so that the cicatrix may be of as little inconvenience as possible; or the limb placed sometimes in one position, sometimes in another, in order to hasten the cicatrization on one side, and to retard it on another. In some destructive burns the weak state of the patient prevents position being attended to, as the necessary precautions would endanger life. In such cases the friends should be informed of the inevitable consequences. In some regions of the body the regulation of position is impossible, or extremely difficult, as in the face. Thus in a burn of the fourth degree, implicating the lower eye-lid and the cheek, it is impossible to prevent the junction of the edges of the wound, so that the eye-lid is almost united with the upper lip. Great deformity also results from burns of the forehead, temples, upper eye-lid, hairy scalp, &c. When position cannot thus be employed, the fall of the eschar should be delayed as long as possible, as this tends to separate the edges, and when it has fallen, the cicatrization must be hastened by frequently cauterizing the part with nitrate of silver. M. Dupuytren has found that this application hastens the formation of an accidental cutaneous tissue rendering the cicatrix equal, flat, and exempt from those deplorable elevations which expose the want of skill or negligence of the surgeon. The wound should be frequently washed and dressed. Position should be persevered in for a month, six weeks, or more, after the cure of the patient, and then should be gradually suspended; for the contractile power of the new tissue may produce much subsequent retraction. Bandages are necessary to retain the parts in position. Thus, if the anterior, posterior, or lateral parts of the neck are burned, in order to bend the head in the proper direction, leather straps should be fixed by some turns of a circular bandage to the head, and by their other ends to a bandage round the body. If the anterior part of the arm is burned, extension should be kept up by a posterior splint and circular bandage. If any part of the circumference of the wrist is burned, a pad is to be placed on the opposite side of the arm, reaching to the wrist, above that a splint extending to the ends of the fingers, and taking advantage of the space between the hand and the splint, the former is to be bent on the latter by some few turns of the bandage which was employed to fix the pad. If the palm of the hand and fingers are burned, the extension is to be kept up by means of a pad on the posterior surface, and over that a splint the size of the extended hand, having ten holes for little bandages to confine the fingers, or cut into the shape of fingers. In burns of the second and third degrees, adhesions of contiguous surfaces may be prevented be separating them by the interposition of foreign bodies, and moving them at each dressing; but in more severe burns compression must be employed, by a long and narrow strip of linen, the middle of which is to be placed in the angles formed by the junction of the fingers, and the ends are to be fixed to the fore-arm, one in front and the other behind it; if this is not attended to, the hand will have the appearance of the foot of a web-footed animal. Where either of the natural openings of the body are thus burned, great attention must be paid to the constant introduction of tents, canulæ, &c, which should always exceed in size that of the natural outlet, and should be continued for a long time after the cure. Adhesive plasters may be of some use in preventing deformity when position cannot be employed. — *Ib.*

Dr Lee's Remarks on the Structure of the Placenta.

The facts stated appear to warrant the conclusions — that the placenta does not consist (as all anatomists have hitherto described) of two parts, the maternal and the fœtal; — that no cells exist in its substance; — that there is no communication between the uterus and the placenta by large arteries and veins; — and that therefore whatever changes take place in the fœtal blood must result from the indirect exposure of this fluid, as it circulates through the placenta, to the maternal blood flowing in the great uterine sinuses; seeing that the deciduous membrane is interposed between the one set of vessels and the other. Professor Burns, of Glasgow, has published a paper, last July, in the Medical Gazette, in which he advocates the old doctrine of a direct communication of the large uterine and placenta vessels, and of the cellular texture of the placenta; but we do not think that he has been successful in refuting the interesting discoveries of Dr Lee. As this is a subject of great interest to the anatomist and physiologist we are tempted to find room for the valuable communications of Mr Owen, of the College of Surgeons, whose authority must weigh highly in all anatomical researches, and of Mr Charles Millard, the Demonstrator of Anatomy in the School of Webb Street.

'My Dear Sir — During the time you were examining the Hunterian preparation of the uterus and placenta in the Museum of the Royal College of Surgeons, your observations on the obscurity produced by the extravasated injection led me to think of some less objectionable mode of demonstrating the vascular communication between the uterus and placenta, if it existed; or of proving more satisfactorily than the appearances you pointed out in that preparation seemed to do, that there was no such communication.

You have since afforded me the means, through the kindness of Mr Alex. Shaw, of examining, in the manner I wished, the anatomical relations between the placenta and uterus. This has been done by dissecting the parts under water before disturbing them, either by forcibly throwing foreign matter into the vessels, or by separating the placenta from the uterus, to observe the appearances presented by the opposed surfaces, — a proceeding which, if done in the air is liable to the objection of the possibility of having torn the vessels which were passing across, and the coats of which are acknowledged by those who maintain the existence of such vessels, to be extremely delicate.

The mode, therefore, which was adopted to avoid these objections, was to fix under water, in an apparatus used for dissecting mollusca, &c, a section of the uterus and placenta, and, commencing the dissection from the outside, to remove successively and with care the layers of fibres, and trace the veins as they pass deeper and deeper in the substance of the uterus in their course to the deciduous membrane; in which situation, as the thinnest pellicle of membrane is rendered distinct by being supported in the ambient fluid, I naturally hoped in this way to see the coats of the veins continued into the deciduous membrane and placenta, and to be able to preserve the appearance in a preparation, if it actually existed in nature. But in every instance, the vein, having reached the inner surface of the uterus, terminated in an open mouth on that aspect; the peripheral portion of the coat of the vein, or that next the uterus, ending in a well-defined and smooth semicircular margin, the central part adhering to, and being apparently continuous with, the decidua.

In the course of this dissection, I observed that where the veins of different planes communicated with each other, the central portion of the parietes of the superficial vein invariably projected in a semilunar form into the deeper-seated one; and where (as was frequently the case, and especially at the point of termination on the inner surface) two or even three veins communicated with a deeper-seated one at the same point, these semilunar edges decussated each other, so as to allow only a very small part of the deep-seated vein to be seen. I need not observe to you how admirably this structure is adapted to ensure the effect of arresting the current of blood through these passages, upon the contraction of the fibres with which they are every where surrounded.

On another portion of the same uterus and placenta, (which were removed from a woman who died at about the fifth month of utero-gestation,) I commenced the examination under water by turning the placenta and deciduous membrane from the inner surface of the uterus. In this way, the small tortuous arteries that enter the deciduous membrane were readily distinguishable, though not filled with injected matter; and as it was an object to avoid unnecessary force in the process of separation, they were cut through, though they are easily torn from the decidua. But with respect to the veins, they invariably presented the same appearances as were noticed in the first dissection, terminating in open semi-circular orifices, which are closed by the apposition of the deciduous membrane and placenta. This membrane is, however, certainly thinner opposite these orifices than elsewhere; and in some places appeared to be wanting, or, adhering to the vein, was torn up with it; but in these cases the minute vessels of the placenta only appeared, and never any indication of a vascular trunk or cell commensurate with the size of the vein whose terminal aperture had been lifted up from the part.

The preparation which accompanies this letter shows the termination of a vein on the inner surface of the uterus, and an artery of the decidua cut through, with the corresponding appearances on the surface of the placenta; also the valvular mode in which the veins communicate together in the substance of the uterus.

I remain yours, very truly, Richard Owen.'

Med. Chir. Rev.

HYSTERIA, FATAL.

In the twentieth fasciculus of his Principles of Obstetric Medicine, a work which we have often noticed, and which will form a valuable addition to obstetric works, an interesting instance of hysteria proving fatal is related by Dr Davis. The case is taken from Villermay's work on Nervous Maladies, and as well authenticated facts of the sort are scarce, we are inclined to notice it.

A young woman aged fifteen, presented the usual indications of ripened puberty. Her temperament was sanguineous; her figure was small, but well formed. She was active, alert, and cheerful; and she led the life of a domestic. When she was eight years old, she experienced an attack of convulsions, of which however she sustained no subsequent attacks until she arrived at the age of fourteen. She had then menstruated regularly, and in sufficient quantity, for a about eight months; but pending her eighth period they became suppressed, in consequence of a fright. Nevertheless no great inconvenience was experienced at the time. On the next return of the function, however, the menstrual discharge presented itself only for a short time and in minute quantity, and was then immediately arrested.

From that time forward she complained of feeling a general indisposition, accompanied by a sense of numbness in her lower extremities, thirst, and especially by expressions of concern for her situation as a servant. On the second day her case was aggravated towards evening by a painful sense of strangulation, such as might be produced by a tightly-drawn neckband or collar, and the respiration was consequently embarrassed. The hypogastric region became the seat of a marked fulness, and the extremities as well as the trunk of the body were repeatedly seized with convulsive movements. A strong spasmodic constriction of the pharynx prevented the patient from swallowing any liquid, although she was induced by much thirst to make strong and repeated efforts to accomplish that object. During this paroxysm she voided a great quantity of clear and limpid urine. On the third day, about mid-day, she was taken to the Hôtel-Dieu. Her sense of suffocation and her anxiety were then become very distressing; and she cried bitterly, complaining that she constantly felt as if being strangled. Her voice in the mean time was but little changed, and she moreover retained her reasoning faculties, and answered correctly to all the questions which were put to her. The convulsive movements of all the parts affected continued unmitigated. The abdomen was alternately elevated and depressed to a very remarkable degree. The poor patient constantly carried her hand to her neck, as if to remove the fatal collar. She constantly asked for something to drink, but her efforts to swallow were altogether ineffectual, the attempts in the mean time being extremely painful to her. Her difficulty of breathing was also undescribably distressing to her. She was every moment threatened with suffocation. Her pulse was contracted, hard, frequent, and very irregular. The movements of the heart could be felt to present similar characters, and they were perceptible to the touch as well as to view. The skin was of a reddish hue, and moist with perspiration. The unfortunate patient died in about six hours after her reception into the hospital, in the midst of a violent exacerbation of her disorder. She complained of having been strangled to the very last moment of her life.

Nothing was done for this young woman, and, with this exception, and with the exception also of the nature of the result, the case resembles very closely one related by Dr Graves in an article which we have noticed in the present number of this Journal. We pray our readers to compare the cases. The body of this young woman was examined after death. The right cavities of the heart and pulmonary artery were 'enormously charged' with black blood. The veins of the cerebrum and sinuses were also so charged. There was really nothing else of the slightest consequence, and the death of the poor girl, coupled with the fact that nothing was done for her in the Hôtel Dieu, is a cutting and melancholy satire on the médecine expectante.

Davis's Principles of Obstetric Medicine.

PROFESSOR ROUX' OPINION ON THE CAUSE OF DEATH AFTER VERY PAINFUL INJURIES.

A man was admitted into the La Charité Hospital, with an immense tumor on the upper and inner side of the thigh. The operation for its removal was very protracted and painful, in consequence of the deep adhesions to the ossa pubis and ischii. The patient died on the third day, in a state of alternate stupor and delirium. On dissection, the only morbid appearance observed was, an effusion of serum into the lateral ventricles of the brain. M. Roux stated, that in almost all cases where death is consequent upon very severe suffering, he has found an effusion of serum either between the membranes, especially between the arachnoid and pia mater, or in the lateral ventricles. He has very often noticed it in patients who have died from burns, and more frequently in children than in adults, who can better resist pain. —*Med. Chir. Rev.*

ON HYDATIDS, AND THEIR CONVERSION INTO TUBERCLES.

M. Kuhn has lately read before the French Academy a memoir on acephalocysts, and the manner in which these parastical productions give rise to tubercles. He holds the opinion of Laennec, Bremser, and others, that they are to be considered as truly of an animal nature; and draws a distinction between those found in the human body, from what are often seen in sheep and other lower animals; the former, says he, are always propagated by internal buds, or growths which are thrown off from the inner surface of the original hydatid, and may be, therefore, denominated 'endogenous;' they may be compared to a nest of boxes, one within the other, whereas the latter produce buds only on their outer surface, and are, therefore, 'exogenous.' It was after a very careful examination of the lungs of oxen, which had died of a species of phthisis called 'pommelière,' that M. Kuhn was led to the belief of the degeneration or conversion of hydatids into tubercles. The hydatids, by their irritation, cause cysts to be formed around them; these cysts become stronger, fibrous, or even cartilaginous; meanwhile, the acephalocysts enlarge by serous imbibition, and multiply by buds from their inner surface; these again, in course of time, give rise to others, the whole nest being contained in one bag. From the inside of this bag is secreted a yellowish viscid matter, which becomes thicker and thicker; M. Kuhn regards it as the primitive tuberculous deposit: it gradually solidifies, and, with a simultaneous shrinking of the cyst, tends to squeeze and kill the enclosed animals, thus giving rise to a nucleus of tubercles. Sometimes the tubercles are not entirely filled up, but are hollow, and we observe only the shell or dried husk of the acephalocyst; we may even separate the thin layer of the animal from the debris within, by immersing some of the tubercles in water. M. Kuhn has enriched his memoir with beautiful illustrative drawings; they throw much light on the etiology of the tubercles which are found in the lungs and liver of ruminating animals. The co-existence of hydatids and tubercles, in the same organs, is a fact at once curious and most interesting. The subject is one of much importance, and deserves future examination. — *Révue Medicale.*

Parliamentary Report on Vaccination.

We beg to direct attention to the very important document relating to vaccination which will be found in our present number. It has been expected for some time, but has only just been printed; and we have the satisfaction of being the first to lay it before the professional public. We shall probably take a future occasion of adverting to the subject more at length; but mean time we must take leave to protest, *in limine*, against the proposal, 'that, considering that the duties of this Board are likely to be rather honorary than burthensome, the persons to be appointed members of the Board should, before appointment, be requested to signify their consent to perform the duties gratuitously.' We really must say, that medical men do quite enough for the public gratuitously, without any fresh calls upon them. If the services to be performed by the Board be of importance to the country, they ought to be paid for, like other government offices; if they be not, then no Board ought to be appointed. At all events, some great necessity, and some important saving, can alone warrant the above proposal; but we find that the expenditure of the Vaccine Establishment, according to the arrangements already made, is 2,100*l*, and the expense according to the proposed plan of a *responsible* but *gratuitous* Board is, 1,605*l*; so that the entire saving is under 500*l*. Surely the country is not yet so near a bankruptcy as to require such a miserable gratuity as this at the hands of the medical profession. — *Med. Gazette.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I.—OBITUARY.

DIED, AT BOSTON, MARCH 27TH, AT THE RESIDENCE OF HIS FATHER, DR JACKSON, JAMES JACKSON, JR, M. D., AGED 24.

It is seldom that the death of a junior member of our profession has called forth so general a voice of sympathy and regret, as has been heard among us since the death of this estimable and talented young man. There were circumstances in his private life which warranted the high expectation of the community in which he lived, and, in venturing to allude to these circumstances, it is in the hope that his example may speak to us in the tones of that voice we are destined to hear no more.

In our profession, the paths of mediocrity are crowded. There are multitudes of us, who feel, perhaps, some aspirations to benefit mankind by researches which would carry us a little beyond the circle of our common duties; and yet, who are conscious of a thousand deficiencies of time, opportunity, and education which fetter us to our daily task. It is therefore a public loss, in which the interest and honor of the profession are largely concerned, when one is taken away from us who has been eminently qualified by disposition, by mental endowment, by zeal and opportunity, to shed lustre upon a useful and honorable pursuit. Yet such was James Jackson. His profession was that of his only, his earliest choice; his mind was of good material, well nurtured, mature for his years, and peculiarly adapted to the nature of his occupation; his opportunities had been, and continued to be, most improving; and his constitutional zeal and ardor, directed as they were singly to the science of medicine, were calculated to surmount every difficulty, and to remove every obstacle which would be likely to intimidate and to deter less gifted minds. It was a pure zeal, it was ardor in the cause of truth. It was like the zeal and ardor which actuated the mind of John Hunter, and filled that of the youthful Bichat; it was that unceasing prompting which always is, and must be connected with generous and noble sentiments; which carries men to the highest ends, by the most virtuous means. If it be deemed that this is the language of friendship be it so; we know that it is the language of truth, and we record it, to incite those among us who are capable of it, (for even our partiality will allow that there are many such,) to devote themselves to those noble purposes in the art of healing to which our lamented friend had devoted the best energies of his cultivated mind. There was nothing precocious in his mind. His attainments, though greatly beyond his years, were merely the results of judicious cultivation in an improvable soil.

Dr Jackson was a graduate of Harvard, and a student of the medical school of that university in Boston. He was there distinguished among the medical students, for his industry, and for a talent of observation, which afterwards showed itself to be a very characteristic qualification. In the third year of his pupilage he wrote a dissertation upon Pneumonia, which gained him great credit with the Boylston Society of medical improvement, whose prize was awarded to it. This performance developed the tendency of his mind, and he afterwards became deeply versed in the diagnosis of pulmonary diseases. At the close of his third year he visited Europe, where he remained two years, until the autumn of 1833.

The first summer which he passed in Paris was that of the memorable Cholera Epidemic. Dr Jackson's conduct upon that occasion, gained him great credit for courage, science and philanthropy, and established his reputation with the medical students and teachers of Paris, with whom he was brought into contact. The notes of his observations upon sixty cases of this dreaded malady were sent to this country, published, and probably contain the most minute account we have, of the natural history of the disease; and especially of the morbid appearances after death. The dissections were all made with the minutest care, and the result stated in the most exact manner.

Dr Jackson visited Great Britain, and formed an extensive acquaintance with the most distinguished individuals in the medical profession in the three great capitals of that kingdom. He possessed the happiest art of extracting information from all with whom he associated; the truly wise are always communicative, and to such men the subject of this notice always rendered himself acceptable, by his modest docility, and his intelligent inquiries. His method was, immediately upon being introduced to a distinguished man, to lead him to speak of his own favorite topic, whatever it might be; and there were few men, of any age, who could more readily measure the dimensions of the minds of others.

But his favorite residence was in the capital of France. It was here that he found the mental aliment best suited to his capacity. He belonged to the exact school of medicine. His observations were of facts alone; he had little fondness for hypothesis. His love of truth in medical investigations was severe and uncompromising. Nothing excited his indignation like dishonesty in medical statements. The teachers he most loved to follow were Andral and Louis, and with the latter gentleman especially, he was united in ties of the most intimate friendship. They were indeed kindred spirits, and the French Medical Philosopher will mourn, with unaffected sorrow, the loss of his junior coadjutor.

While at Paris, Dr Jackson was instrumental in forming a society of medical observation by the exact method. It consisted of a small number of the most promising and distinguished young men of all nations. M. Andral was president, and Louis vice president. They held weekly meetings, at which papers were read, containing observations made in the most critical manner upon the patients in the Parisian Hospitals. Their plan was to continue their observations of diseases through life, each one attaching himself to those branches of inquiry most congenial to his habits and occupations, and communicating from time to time with each other, adhering always to the most scrupulous fidelity in the relation of facts. With a view to determine more exactly the natural history of diseases, they had agreed to prepare the histories of a certain number of individuals, beginning with the period of their birth, and recording every circumstance and mode of life which could have a bearing upon peculiarity of disease, and to continue this record for a series of years. A joint publication of these materials was contemplated from time to time.

M. Louis exactly appreciated the character of his pupil. He pronounced him to possess a rare talent of observation, and his strong desire was, that, after his return to this country, he should devote himself to medical observation for a series of years, withdrawing himself from the duties and distractions of a general practice. But this was not his intention, and his varied acquirements were just being offered to the public in the practice of his profession, when death suddenly snatched him from us.

It was to the observation of pulmonary diseases, and especially of tuberculous Phthisis, that Dr Jackson devoted much of his hospital attendance. In the diagnosis of these diseases he had acquired a discriminating tact which is seldom reached at any age, and was altogether extraordinary for one so young. In auscultation he had few rivals, and perhaps no superiors. He had acquired in this department all that could be expected from the conjunction of an apt scholar, an excellent school, and an admirable teacher; for he had access, at all times, to the patients at La Pitie, (to whom the kindness of his manner always rendered him acceptable,) and had the private and public instructions of M. Louis. His attendance at this hospital exhibited a model of industrious application. The clinique of M. Louis began in mid winter, at eight o'clock in the morning, and lasted till eleven, including the autopsis, and the clinical lecture. This clinique he invariably attended, and noted down every symptom, and every remark worthy of remembrance. In the afternoons he repeated, alone, his visits to the same patients, and carefully went over the examination of their symptoms by himself. Much of the rest of the day was taken up with arranging and recording the information thus gained. The writer of this notice left him in Paris in November, pursuing this routine, and, on returning there the following February, he was assured by the subject of it, that he had never varied his course a single day, nor omitted a single visit. It is from this concentrated attention that we are to expect the improvement of our art; and it is by the energy and zeal of the young, 'their scorn of pleasure and the love of ease,' that this improvement is to be effected. May the example of our friend operate upon such minds and with a happier result than this, where Science has indeed sown the seeds, but Death has reaped the fruits.

A translation of the invaluable work of M. Louis upon Phthisis was announced last summer by Dr Jackson and one of his friends. The expectation of the profession in this country, with whom the writings and opinions of M. Louis are becoming more known, was highly raised by the announcement of this work, as it was expected to contain much valuable additional matter from the pens of the translators. Dr Jackson had been very diligently recording his observations upon an obscure point in the pathology of tuberculous diseases, the results of which it was expected would give an interest to the work. His practised ear had discovered a modification of the respiratory murmur, which he thought was diagnostic of the existence of tubercle in the incipient state, and, it will occur to every one, that such a criterion, if established, would be of immense practical importance. He had not, however, proceeded far in his intended work before he was laid upon his bed, with a fever of such severity and protracted duration, that the hopes of his friends were for a long time more than balanced by their fears. He did, however, completely recover, but it was to encounter, after the interval of two or three months, the severe dysenteric affection which in about three weeks terminated his life.

In the course of his residence in France, he had made himself perfectly familiar with the history of diseases of the skin. He attended diligently at the Hospital St Louis, under the able instruction of an interne of that establishment, and faithfully went through the excellent work of Cazenave, comparing the appearances as he has recorded them, with those which the patients actually exhibited. By patiently following this course he had familiarized himself with the distinctive character of cutaneous diseases in a very complete manner.

One of the last objects of inquiry with him while abroad was the perplexing class of cerebral affections, and his acquisitions in this branch, though perhaps less extensive than in some others, were characterized by the same exactitude which prevailed in all. Indeed, he was as little given to loose generalization upon any subject, as any one we ever knew. His impressions though vivid, were not fanciful; his mind demanded the aliment of truth; and facts, not opinion, were the materials from which he extracted it.

It was not from any disrespect to the Surgical Art that Dr Jackson did not seek to qualify himself for the practice of that department of his profession. But he well knew that it was impossible for one man to excel in everything, and his was not a disposition to be satisfied with mediocrity in anything. He used playfully to say that he believed he must pass a week at Hotel Dieu before he left Paris, in order to qualify himself to be a surgeon.

The structure of his mind naturally led him to delight in pathological anatomy. His fund of knowledge on this subject was very ample, and had been collected from a diligent inspection of the numerous public and private museums of England and Scotland, as well as from the frequent autopses of the French hospitals. We have often thought this exhibited the characteristic maturity of his mind; for morbid anatomy is not usually the favorite pursuit of youthful minds; and, for the most part with such minds, yields to the superior brilliancy of physiological investigations and surgical achievements.

It was in this department that he was strengthening himself during the short space that he remained with us after his return from Europe, and he eagerly embraced every opportunity afforded him in the Massachusetts General Hospital of inspecting the appearances left by disease. The French pathologists, as is well known to the profession, have insisted very strongly of late years upon the connection between certain morbid appearances in the mucous membrane of the small intestines, and certain forms of fever. To this point Dr Jackson was directing his researches at the time of his first sickness, and with a prospect of eminent usefulness. His observations went to confirm those of the French practitioners.

The manners of our friend were of that kind, and conciliating, and polished description that constitutes so useful an introduction to the easy performance of the duties of our profession. His general character, however, has been so well and ably drawn in the notices which have already appeared in the public prints, that it would be superfluous for us to speak of him in his social relations in that strain of eulogy to which he is entitled. It is chiefly for the purpose of exhibiting his character as a model to the medical student that we have attempted this faint delineation of his medical attainments. And yet after all it is the man more than the physician we admire; for it is the moral more than the intellectual nature of man that exalts him to a fit communion with his Maker. In the midst of a gay and licentious capital, the subject of this notice turned a deaf ear to the blandishments of pleasure, and lived a life of moral purity and self-respect. He did not even suffer a refined taste and the keen relish he possessed for the contemplation of the works of art, to turn him aside from the high and useful purposes of his ambition. He was a general favorite with his French acquaintance. He spoke the language with the fluency of a native, and the vivacity of his disposition, and his conversational powers endeared him to the people of that lively nation, and perhaps as great self-denial as he practised, consisted in restraining the impulses of a generous social feeling, which was continually called forth by the most inviting opportunities.

Such as he was, well may we mourn his loss! Those who knew him as we did, will ever preserve his image among the bright visions of memory. We murmur not at the decrees of Providence. We question not His benevolence, whether in the dispensations of mourning or of joy. We doubt not that this event which afflicts us is, in His hands, a part of that grand plan, the *whole* design of which is man's happiness and His own glory. But we must be permitted, while we bow submissively to His will, the indulgence of our human weakness at the destruction of human hopes, and to suffer the tears of friendship and regret to flow when we reflect that our friend has been prematurely taken away — that his was not the sear and yellow leaf of autumn, which is scattered by the first breath of wintry age — nor the full shock which invites the sickle of the reaper, — but in him was the freshness of spring, the vigor of youth; and the beauty of opening life.

P.

ART. II. — EDITORIAL CORRESPONDENCE.

Naples, Jan. 20, 1833.

MY DEAR F. — Miserable indeed must be the condition of the poor, in such a city as this, without the most complete and extensive supply of hospital accommodations for the sick. The population of the city is half a million, and crowded into a space that, when you view the city beneath your feet from the castle of St Elmo, gives you the idea of a bee-hive, rather than the habitation of human beings. Of course, where the rich have so little room, the poor have almost none; and, accordingly, this class are nearly homeless. The value of a hospital, therefore, to this numerous class, in the hour of accident, sickness and danger, is greater than can be well understood by one dwelling in the midst of our New England institutions. It is gratifying to humanity to find, in so poor a community, such ample and opulent accommodations for the sick. There are several hospitals which receive only patients of a particular class — as, for instance, the hospital of Marines, taken up in part by the galley slaves; one for accidents, one for acute fevers, &c. But beside these, there is a magnificent establishment, admirably situated on an elevated spot in the centre of the city, furnishing 1500 beds, which receives those affected with every kind of disease except syphilis. This hospital is called *Spedale degli incurabeli*, which is merely an Italian exaggeration, and means only a hospital for Chronic Diseases. At this time it contains 1089 patients. The wards of the hospital are very lofty, and comfortably clean, showing the care of the Sœurs de la Charité, who administer here their benevolent offices. The building surrounds a quadrangular court, and contains within its extensive limits every appurtenance for its complete accommodation. One of the most pleasant and airy of the wards is devoted to the accommodation of puerperal women; and some small rooms, delightfully situated, are private wards for those who can pay for their board. The price of board is about fifteen dollars per month, including everything. The patients with tubercular phthisis are separated from the rest by being placed in a separate ward, in a building having a small court-yard to separate it from the principal edifice. The belief in the contagiousness of the disease is as predominant at Naples as at Rome. In both cities it is customary to sacrifice the clothes and furniture, used about the sick, and even to scrape the walls and tear down the wood work of the chambers in which they have been sick. But if consumption was contagious, how perfectly inadequate is this protection by separation! For multitudes, who occupy beds in other parts of the hospital, on account of other diseases are tuberculous, and consequently must be poisoning the air with phthisical emanations. I was indeed astonished at the number of consumptive patients which this hospital contained. Nearly one hundred beds were occupied by cases of confirmed phthisis. One can hardly realize that so much has been said and written to recommend this city as a residence for consumptives, when some of the best informed Neapolitan physicians estimate the deaths by consumption, among the residents, at one fourth of the whole mortality.

A separate ward for the consumptive is terrifying enough to those who enter it, and might well bear the inscription, 'Let him who enters here leave hope behind.' But the gloom of such a separation as this, is mirth compared with the being placed in an apartment which is found in this and several other hospitals, called the Hall of the Moribund. The title of the ward is written in Italian, in large letters over the door, and announces the fate of all who are removed into it with sufficient distinctness. The reason assigned for this singular arrangement was different from what I anticipated, for my own conjectures had led me to suppose that the arrangement was adopted to save the feelings of those who were in a recoverable state in the neighboring beds. I was informed that the true reason of this seclusion was the convenience of the priest, whose duty it is to perform the last offices of religion to the sick, that he might have all the subjects requiring it at the same time in one apartment.

A more praiseworthy arrangement is the provision of a separate ward for those undergoing surgical operations, and particularly for those who are cut for the stone. The Lithotomy ward contains twenty beds, which are generally filled twice a year, as this operation is performed, at this hospital, at only two days in the year, in spring and in autumn, unless in cases of extreme urgency. The advantage of this arrangement is very obvious, as it enables a surgeon to retain his familiarity with the steps of an operation which he is so apt to lose in operations which occur but seldom.

I saw the stethoscope occasionally employed in the numerous pulmonary cases of this hospital, but with so little diagnostic acumen that it is obvious auscultation is yet in its infancy here.

The mode of conducting autopsies, which I witnessed at this hospital, had the appearance of great fairness. The body is examined under the direction of the professor of pathology, who directs the hospital record which contains the diagnosis to be previously read. Thus the justness of the opinion expressed by the attending physician was apparently brought to an absolute test. But I could not but observe how easy it was for the professor to reconcile appearances with predictions in the minds of the raw students who surrounded him. The immense opportunities for the study of pathology, which this populous institution daily affords, appear to me superior to those of any other place I have visited. I do not know how a medical student, who has two winters to spend abroad, can do better than by passing one of them at Naples. The first season which our young men spend abroad, is one in which they learn rather by what they see than by what they hear, as a foreign language cannot be understood sufficiently to make a lecture intelligible, until after several months' residence. The professors of the University have their cliniques in this hospital. The attending physicians and surgeons, nearly fifty in number, are required to visit the hospital twice a day, and to ensure at least a daily attendance, they are required to write their names at each visit in the hospital records. The medical attendants have a small stipend allowed to them from the funds of the hospital. The hospital was commenced about three centuries ago, and, like Guy's in London, owed its foundation to the munificence of an individual merchant.

There are in Naples four military hospitals. In that of the Marines are received the galley slaves, whose chains are allowed to remain upon them under all forms of disease. The Pharmacy of this hospital is in very good order, and some of their chemicals beautifully prepared. I was here shown an anodyne preparation which was novel to me. It was a distilled Etherous Spirit of Lactuca. I found here a great number of diseases of the heart, which is the most common disease to be met with among the morbid specimens in the pathological cabinets here and at Rome.

Among the remaining hospitals at Naples, which are in all twelve in number, are Spedale della pace, and Spedale del Pelligrini, each containing rather less than a hundred beds. The former is for men with fevers, and other acute diseases. It consists of one large and well ventilated apartment, beautifully clean and well arranged. It is taken care of by a religious order, called the brotherhood of St Jean de Dieu. The latter is for wounded men; the wounded women are received in a separate ward of the Incurabili. This hospital has two wards, and both of them noisy and dirty.

One of the most commendable establishments of this city is that which receives those who are convalescent from fevers and acute diseases in the other hospitals. They are here maintained for one week before they are allowed to return to their customary occupations.

The asylum of military invalids, at the castle of St Elmo, is interesting from the number of blind persons who are found among the soldiers who inhabit it. Of the eight hundred who are now its inmates, four hundred have lost their eye-sight.

Many of these were subjects of Opthalmia while attached to the French armies in Spain.

An institution of this city, which does honor to humanity, is the Albergo del Poveri, or Reclusorio. It is a House of Industry for the aged and for children. It contains at present about three thousand persons, two-thirds of which number are males. The boys are taught the various trades, and settled in life under the auspices of the governors of the institution; and the girls are taught the domestic occupations, and either placed at service, or married off with a dowry of thirty dollars, which they receive from the funds of the institution.

The present is not a fit season to judge of the climate of Naples. In the winter, the weather, as in all the Mediterranean cities, is extremely variable. Although the annual mean temperature of Naples is eleven degrees higher than that of London, yet the range of the thermorneter is so great that a very uncomfortable degree of cold is experienced. We have experienced during the present month some severe cold, and have witnessed the falling of a few flakes of snow. It is not common to see snow in the streets of Naples, but luckily for the inhabitants, it abounds in the neighboring mountains, and furnishes them not only with a luxury to mitigate the scorching breath of the Sirocco, but also with a refrigerant of very great value in the treatment of remittent and intermittent fevers. It supplies the place of ice, which is procured with difficulty. It is preserved in deep wells, packed hard, and scraped up for use.

The salubrity of the vaunted climate of Naples compares unfavorably with that of other large cities. Here a twenty-eighth part of the population is annually swept away, while in London it amounts only to one-fortieth part. This must certainly be the effect of heat, or of some of the other constituents of climate, for in respect to confinement of artisans in unhealthy rooms, the habits of the laboring classes are at least as conducive to health as among the English. In Naples all kinds of business, arts, manufactures and traffic are carried on out of doors; and blacksmiths' anvils, tailors' boards, shoemakers' benches, and fruiterers' stalls, literally obstruct the progress of the passenger through the Toledo, the great thoroughfare of this populous city.

There is no establishment for the insane in Naples. Its want is supplied by the celebrated institution at Aversa, about seven miles from Naples. This establishment was formed in 1813, and has attracted more attention from scientific travellers than any similar retreat in Europe. I shall not be able to visit it. Yours, P.

ART. III. — ON THE MEDICINAL EFFECTS AND BEST ADMINISTRATION OF NARCOTICS.

NARCOTICS, are medicines which in small or moderate doses produce temporary excitement succeeded by depression, which is generally followed by sleep. This definition does not comprehend the anodyne power strikingly displayed by many narcotics; because although it is undeniable that many of them are capable of alleviating pain, yet, as this is not a general property of narcotics, it cannot correctly enter into a definition of that class.

Narcotics are commonly confounded with sedatives, but there are sufficient reasons for separating these two classes. In the first place *narcotics* operate as diffusible excitants, and by a proper regulation of the dose, and its administration at short intervals, their exciting influence only is obtained; in the second place, the depression or collapse which follows the administration of the full dose of a narcotic is the result of the previous excitement; and although this is not in the direct ratio of the degree of excitement, yet, if the excitant effect be considerable, and raised to its acmé, the succeeding collapse is proportionate. On the other hand, *sedatives* immediately depress the vital energies by a peculiar action upon the nervous centres, without causing previous excitement; and, if the dose be sufficiently large, they destroy both mobility and sensibility. Such are the distinctions between the effects of the administration of narcotics and sedatives, — distinctions undoubtedly sufficient to authorize the separation of these classes of medicinal agents.

The first effect of a moderate dose of any narcotic is an augmentation of the action of the heart and arteries, followed by an elevation of the heat of the whole body, and a slight sensation of fulness in the head. These symptoms are accompanied with an unusual exhilaration of spirits and aptitude for exertion; effects which, however, in a little time subside, and are followed by languor and drowsiness, gradually terminating in perfect sleep. The augmented arterial action is succeeded by a small, feeble, and irregular state of the pulse; the temperature of the body is lowered; and the respiration, which in the first instance was accelerated in the ratio of the augmented vascular action, falls below the natural standard; an imperfect decarbonization consequently is effected in the pulmonary circulation; so that the blood transmitted to the brain being inadequate for due excitement, the whole system necessarily languishes. The function of the skin is, however, increased, and passive diaphoresis occurs, accompanied by itching and the dilatation of all the erectile tissues: finally, the glandular excretions are diminished, the mouth feels dry, and both the bile and the urine are evidently defective. The influence on the stomach varies according to the state of the organ; if the narcotic be taken into an empty stomach, it diminishes the desire for food; if swallowed at the time of taking food, the organ is enervated, and chymification suspended; if a short time after a meal, the process of digestion is arrested; and if vomiting be excited an hour or two afterwards, the food is ejected in the state in which it was swallowed. The same effects follow the introduction of a narcotic into the rectum: the intestines, besides, frequently lose their ordinary contractility, and costiveness ensues. This, however, is the result of a moderate dose of only some narcotics; others rather increase than diminish the peristaltic motion of the intestinal canal.* After awaking from the sleep induced by a narcotic, the individual frequently experiences slight headach, some degree of nausea, languor, and a more than usual susceptibility of impression, with tremors of the hands, which continue until some excitant, such as coffee or a glass of wine and water, be swallowed. By degrees these symptoms subside, and the system remains in its accustomed state, unless the dose of the narcotic have been more than can be termed moderate, in which case headach, sometimes vertigo and confusion of ideas supervene and continue for several hours; while anorexia, constipation, and a scanty urinary discharge are experienced for a considerable time, and the individual is left weak and uncomfortable.

If the dose of the narcotic substance be so large as to prove poisonous, headach, vertigo, imperfection of vision, and stupor, are experienced, without any previous apparent excitement;

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* These effects of narcotics on the alimentary canal are greatly modified by disease. In subacute inflammation, or a highly irritable state of the mucous membrane, vomiting is not unfrequently induced; in a relaxed condition of that membrane, the atony is augmented, and indigestion and constipation confirmed; in cancerous ulceration of the stomach, instead of allaying pain, narcotics cause pain, and excite vomiting and rigors, and the brain becomes powerfully affected. In irritable states of the intestinal canal, however, especially when spasm is present, they allay griping, resolve spasm, and produce an anodyne and salutary effect.

the person soon becomes motionless and insensible to external impressions; he breathes slowly; and for some time the expression of the countenance denotes only sound and deep repose. By degrees the features change, and acquire a ghastly character; the breathing, under the influence of some narcotics, is stertorous, as in apoplexy, under that of others it is soft and natural; the pulse becomes irregular, sinks, and at length is almost imperceptible; the muscles relax, the jaws fall, and death rapidly closes the scene. Many of the symptoms following the administration of such large doses of narcotics resemble, in some respects, those attending *apoplexy;* in others, those of *epilepsy;* and occasionally those of *hypertrophy* of the brain; but in every case the distinction is apparent, when the circumstances preceding and attending the attack are duly investigated. Thus in apoplexy there are generally premonitory indications of the threatened attack; and when the sopor has commenced, the patient cannot be roused to any consciousness, which is not the case in narcotic poisoning. The same kind of sopor attends epilepsy; it terminates suddenly, and the attack of the paroxysm is abrupt. Cerebral hypertrophy is a slowly progressing chronic affection.

The influence of narcotics is modified by a series of circumstances; for example, by the nature of the narcotic, the extent of the dose, the time of the day at which it is administered, the combination in which it is given, the state of health of the individual, habits of life, age, sex, and temperament; climate, and idiosyncrasy. Before entering into the consideration of these, let us examine, briefly, the questions — do the effects of narcotics result from their direct influence on the nervous system? or is it secondary to their introduction into the circulation? These are points which have been long and strenuously agitated, and on which the most opposite opinions are maintained. There is no doubt that narcotics are in many instances received into the circulation, and that they are most active; indeed, so much so as to produce almost immediate death, when they are directly conveyed into it; as, for instance, by injection into the veins: yet even in this case their influence may be propagated by nervous communication, as we are led to conclude from the experiments of Messrs Morgan and Addison, who discovered that they produce in the sentient extremities of the nerves on the inner coats of the bloodvessels a peculiar impression, which is conveyed to the brain along these nerves. This is also demonstrated by the rapid effects on every part of the system which follow their administration by the mouth; often in a space of time too short to be the result of absorption. It is also well known that, when the dose has been so large as to be suddenly followed by fatal effects, the whole quantity of the narcotic administered has been found in the stomach. Some striking objections, it is true, have been made to the conclusions drawn from the experiments of Mr Morgan and Dr Addison; but the explanation of the manner in which the effects of narcotics are diffused over the body does not rest on their experiments; the nature of the nervous system enables us to comprehend readily the manner in which this communication of impression is effected.

The primary action of narcotics is not confined to the nerves of the stomach; for if any narcotic, opium, or atropia, or daturia, for example, be applied to the surface of the body, the same results follow, although in a diminished degree, as display themselves when they are taken into the stomach. If the application be made to an entire membranous surface, the energy of the narcotic influence is not in the ratio of the absorbing power of the surface; and if it be injected into the thorax, between the lungs and the ribs, the action is more energetic than when the narcotic is taken into the stomach. The absorption, however, of narcotics cannot be doubted; and when a narcotic substance is applied to a wound, it is probable that in this case it operates chiefly by its absorption into the blood;* but although its influence can be impeded by a ligature on the bloodvessels, yet its operation does not essentially depend on its introduction into the circulation. When it is injected into the veins, the animal, as has been already stated, instantly expires, and this without convulsions. In this experiment all the muscles of the body are rapidly deprived of their contractility; and, therefore, the action both of the heart and of the respiratory muscles ceasing, death must necessarily follow. If these remarks be correct, it is evident that narcotics operate on the *brain* and the *spinal column* by entering the circulation when they are taken in moderate doses; but when they are swallowed in quantities sufficient to prove rapidly fatal, this effect is the consequence of their immediate influence on the nervous system; and when they are taken into the circulation, their effects may be still referred to the direct impression which they make on the nervous system. The nerves most particularly affected by narcotics are the respiratory; for when artificial respiration is maintained for some time in an animal, poisoned by a narcotic, the animal recovers.

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* M. Leisure of Paris applies narcotics to blistered surfaces in preference to their internal administration.

A question naturally suggests itself — how do narcotics produce sleep? Much difficulty attends the solution of this question; but some approach towards it may be attained by keeping in view the state of the vital functions during sleep. In this condition of the body, the pulse beats more slowly than when the person is awake; the temperature of the body is diminished, the perspiration is decreased, and nearly all the secretions are suppressed. Now on whatever principle narcotics act, if their primary stimulant influence is followed by a diminution of the force and frequency of the circulation, and at the same time of the respiratory effort, the change of the venous into arterial blood must be necessarily impeded; and this alone, by weakening the energy of the brain, will cause sleep. Such, at least, is the theory which the writer of this article is inclined to offer. It may be objected that this explanation applies equally to all stimulants; and such is really the case, as all transitory stimulants, according to the extent of the dose, operate like narcotics, and produce sleep. But there is still something connected with the anodyne influence of narcotics which we cannot readily explain, and which requires a more intimate acquaintance with the nervous system than we at present possess.

Circumstances which modify the action of narcotics.

1. *Nature of the narcotic.* — The general effects which have been described as resulting from the administration of a narcotic are those which opium produces. When acetate of morphia is substituted for opium, and a full dose is administered, another symptom displays itself: the patient, when in the horizontal posture, is attacked with shocks, as if electrified; the head is thrown backwards as in opisthotonos; and a paralytic condition of the bladder of urine supervenes, although there is no diminution of the secreting powers of the kidney. If the muriate of morphia be employed, little or no excitant effect is perceived, while the sedative influence is most obvious. Belladonna, hyosycamus, and aconitum, are more directly anodyne, and even in small doses affect the sight more than any other narcotics; and when the two former are overdosed, and delirium succeeds, it more resembles the delirium

of intoxication than that of narcotism. Irregularity of arterial action characterizes the operation of conium, the pulse being in some instances sunk, in others increased to one hundred or more during the whole time of administering the medicine. When over-dosed, the breathing is more oppressed, and the thorax more constricted than with any other narcotic, while the countenance assumes the aspect of that of a man who has been strangled. Digitalis accumulates in the system, and veratria (colchicum *autumnale)* operates chiefly on the duodenum, producing copious bilious stools; thus lessening febrile action, and allaying pain.

2. *Extent of the dose.* — The influence of small and large doses of narcotics has been stated; and in many morbid states of the habit they may be employed to produce either stimulant or sedative effects. Unless the dose be large enough to diminish sensibility, they cannot be administered with the view of procuring sleep. In cases of inflammation, after the use of the lancet, large doses of narcotics are generally productive of the most salutary effects; on the contrary, small doses are likely not only to counteract the benefit derived from the bleeding, by their stimulant influence, but, if their administration be repeated, to augment the evil. In all painful and spasmodic affections the extent of the dose is to be limited only by its effects: thus in tetanus, one hundred drops of the tincture of opium have been administered every hour with the best effect; and the writer of this article, in cases of gallstones and renal calculi, has given upwards of eight hundred drops of the officinal tincture of opium in less than twelve hours, without any effect but that of relieving pain and aiding the passage of the concretions: indeed narcotics may be persevered in to any extent as long as they display no determinate action on the habit. The dose in such cases requires to be progressively augmented; if no relief be afforded in three or four hours, it should be doubled, and so on until the benefit anticipated be obtained.

3. *Period of the day.* — When narcotics are administered in the morning, especially on an empty stomach, considerable excitement is induced, and the anodyne and hypnotic effects of the medicine seldom follow; on the contrary, if the same dose be given in the evening, little excitement supervenes, and the desire of sleep is so great that it is impossible to avert it.

4. *Combinations.* — Narcotics, when uncombined with other substances, produce the effects already described; but in

combination with many different substances, their operation is greatly modified. Thus, in conjunction with tonics, instead of checking chymification, they promote the appetite and favor the digestive function; aromatics oppose their sedative influence, and delay their soporific effect; combined with diaphoretics, while the function of the skin is augmented, their influence on the brain is diminished. Acids promote their powers; while alkalies, by decomposing their active principles, and withdrawing the acids which render their alkaloids soluble, diminish them, and in many instances render the narcotic inert. We shall notice these effects of combination in describing the individual narcotics.

5. *Habit.* — Narcotics lose their influence when they have been taken daily for a considerable time; and doses have been swallowed under such circumstances which would at first have proved fatal. This effect of habit in modifying the action of narcotics has not been satisfactorily explained, although M. Charvet has attempted it in reference to opium. He assumes that the state of congestion of the brain is admitted as the effect of an overdose of opium, and supposes that the frequent use of the drug renders this less considerable; or that the brain, accustomed gradually to the flow of blood and resulting compression, at length is enabled to bear it with impunity, in the same manner as when a serous effusion gradually occurs, or a tumor is slowly developed in the brain. There is much ingenuity in this explanation; but the power of habit in modifying and resisting the influence of some narcotics is not extended to all; and, indeed, there is little similarity of action among narcotics: each has its own specific or peculiar action on the nervous system, a circumstance which enables the physician to accommodate narcotics to the constitution of his patient. This is peculiarly striking with respect to the anodyne and hypnotic properties of narcotics: after the failure of one, the administration of another will fulfil the intention of the prescriber whether it is intended to allay pain or procure sleep. It is an equally curious fact, and one of practical importance, that this force of custom in reference to one narcotic does not render the system less susceptible of the impression of moderate doses of another: the opium-eater, accustomed to take a drachm of his favorite narcotic daily, may be lulled to rest by a few grains of henbane or conium.

It is unnecessary to mention many instances in proof of the extent to which the doses of narcotics may be carried with impunity by those who have long accustomed themselves to their use. Russell, in his History of Aleppo, states that Mustapha Shatar, an opium-eater in Smyrna, took daily three drachms of the drug, and felt a necessity for increasing the dose. Dhere, a French author, mentions the case of an officer of the same nation who took a drachm of pure opium daily, and appeared in good health, although an alvine evacuation was procured once only in eight days, sometimes once only in fifteen days. But no work affords so much curious information on this part of our subject, and so displays the extent to which the doses of some narcotics may be carried, as the Confessions of an English opium-eater. It is, nevertheless, true that the habitual use of narcotics wears out the powers of life, and leads on to premature old age. The symptoms which follow the use of opium, for example, thus indulged in, closely resemble those brought on by excess in venery; marasmus and decrepitude supervene; the mind equally suffers; and the wretched individual sinks into the grave a deformed and slavering idiot.

6. *Age.* — The younger the person, the more energetic is the action of narcotics on the system; they even prove injurious to the fœtus, when they are prescribed to relieve cramps, or allay inquietude in the mother: thence the necessity of caution in administering them to infants, in whom both convulsions and epilepsy have followed their use.

7. *Sex.* — Narcotics exert a more powerful influence on women than on men, a circumstance which might, *à priori*, be expected from the greater susceptibility of the female constitution. To pregnant females, also, narcotics must be administered with the greatest caution, as in this condition of the female habit a state of the cerebral function frequently occurs, which is augmented by the operation of narcotics, and might be productive of dangerous consequences.

8. *Temperament.* — There is but one opinion respecting the power of temperament in modifying the operation of narcotics. In the *sanguine* temperament the nervous system is highly sensitive and susceptible of every impression, and the body predisposed to inflammatory action. There can be no doubt that narcotics will produce a more powerful impression on such a temperament than on the opposite or *melancholic.* In those persons, for example, who are easily affected by wine, and in whom inebriety is quickly produced, a small dose of opium causes powerful cerebral excitement; thence the maxim

of Tralles, 'Illi vero omnes qui vinum non bene ferunt vix bene ferent opium.' On the same account, a condition of habit likely to favor cerebral congestion is much more likely to be powerfully influenced by narcotics than a spare habit — a fact which ought never to be lost sight of in practice.

9. *Climate.* — The action of narcotics is powerfully modified by climate. The same dose of a narcotic which produces only beneficial effects in Great Britain, has been found to operate too powerfully in Italy; some attention is, therefore, necessary, in prescribing narcotics, to accommodate the doses to the nature of the climate in which the physician is practising. On the same principles, season modifies their action, and smaller doses are required in summer than in winter. These observations seem, nevertheless, at variance with the result of temperature on opium, the brain being less affected when the patient is kept in a temperature which excites perspiration than in one which is cooler. M. Hecquet explains this influence of temperature in the case of opium, by saying, that as heat favors the flow of sweat, the opium is carried out of the habit with it, and is thus prevented from affecting the brain. Charvet supposes that as copious sweating diminishes the mass of the circulating fluids, and renders the cerebral compression less powerful, the sweating may be regarded as a favorable crisis which guards the brain from over compression. Both opinions are hypothetical; and it is more likely to depend on the greater irritability of the habit in warm climates than in cold, and the consequent greater susceptibility of impression.

10. *Idiosyncrasy* is more likely to influence the action of narcotics than any other classes of medicines. In some individuals opium, for example, even in moderate doses, produces restlessness, delirium, and convulsions; in others miliary eruptions; and in some its soporific effects are never experienced until the day following that on which it is taken.

With regard to the employment of narcotics, were it consistent with our plan to enter into the history of this class of remedial agents, we should remark on the very early period in which mankind appear to have been acquainted with their effects. In every nation and among every people, from the southern islander, who chews the kava, and with his own saliva manufactures the intoxicating bowl, to the polished European who indulges in the fermented juice of the grape, all seek in narcotics, not only oblivion from pain, but a balm for the cares and sorrows of life — 'ducunt sollicitæ jucunda oblivia vitæ.'

When narcotics are taken in over-doses, they produce the effects which have been already described; post-mortem examinations of the body display the brain gorged with blood; and not unfrequently water is found in the ventricles. In cases of supposed poisoning by narcotics, however, care must be taken not to confound the symptoms with those arising from diseases; in particular, apoplexy and epilepsy, which as has been already stated, display symptoms closely resembling some of those attending poisoning by narcotics.

With regard to the *practical employment* of narcotics, it is obvious that they ought not to be prescribed in cases in which their primary excitement would prove hurtful, unless the dose be large enough to induce symptoms of diminished sensibility and lessened action without any previous excitement; and experience teaches us that this is the result when a large dose of a narcotic is administered, particularly when it is taken immediately after a copious abstraction of blood; but if the dose be small, the opposite effect follows, proving that the patient may be either greatly benefited or materially injured by the extent of the dose of the narcotic, which it may be thought proper to prescribe. Thus if, in a case of pleurisy, the pulse be hard, quick, and forcible, and the pain of the side so acute as almost to prevent even a half inspiration, if a free bleeding be resorted too, two grains of opium in conjunction with the same quantity of calomel and a quarter of a grain of tartar emetic may be prescribed with the prospect of much benefit; but if half a grain only were ordered, not only would no advantage accrue from the narcotic, but the stimulant effect alone being obtained, the benefit of the bleeding would be counteracted rather than maintained, and the repetition of the dose would only increase the evil. In this respect the action of narcotics does not differ from that of direct stimulants. In all cases, therefore, of increased excitement, when pain or restlessness demands the administration of a narcotic, the dose should be sufficiently large to obtain at once its anodyne effect without the primary stage of excitement.

The stimulant influence of narcotics in small doses is frequently taken advantage of in the treatment of fevers of a low or typhoid type. The tincture of opium, for example, given in doses of ten minims at short intervals, augments the strength of the pulse, rouses the vigor of the system, and sometimes supports the strength.

Narcotics may be arranged under two distinct heads, namely, *direct narcotics* and *indirect narcotics.* Under the former may be placed all those substances which produce their effects by a direct impression on the nervous system, without necessarily entering the circulation: under the latter those which enter the blood before acting upon the nervous system; for even when they enter the circulation, their influence is still exerted upon the nerves. The continental physiologists have made many experiments to ascertain the manner in which narcotics operate, and have deduced this inference, that the narcotic must be transmitted to the brain through the blood before it acts; but it is more probable that in full doses direct narcotics operate by an immediate impression on the sentient extremities of the nerves.

Like all other narcotics, *opium* exerts a primary stimulant effect on the living system, whether it be introduced into the stomach or into the rectum, or injected into a vein, or applied to wounds or ulcers, or rubbed on the surface of the body. When taken into the stomach in a solid form, it undergoes partial digestion; this process separating, in a great degree, the active principles, the *meconate of morphia*, the *narceine* and *narcotina:* thence the salts of opium act more rapidly than the entire opium.* During the continuance of the stimulant effect of opium and its salts, the cuticlar secretion is augmented, but some of the other secretions are diminished: the urine, for instance, is scanty and high colored;

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*The components of opium are —

1. *A volatile oil*, on which the odor of the drug depends, but existing in such small quantity that it can scarcely be procured in a separate form. Water distilled from opium contains it, and is productive of slight cephalalgia when snuffed up the nostrils, but it displays no other narcotic property.
2. *Gum*, including *bassorine.*
3. *Extractive*, partly simple, partly unusually oxydized.
4. *Resin*, with which the coloring matter is closely combined; and this in conjunction with the volatile oil may be the source of the stimulant property of the drug.
5. *Caoutchouc.*
6. *Narceine*, a new principle lately discovered by M. Pelletier; it is crystallizable, is soluble in water and alcohol; insoluble in ether; and has a bitter styptic taste. Its action on the animal economy is unknown.
7. *Meconine*, another new principle, also discovered by the same able chemist; crystallizable; little soluble in cold water, but very soluble in hot water.
8. *Morphia*, in combination with meconic acid as a bimeconate.
9. *Narcotina*, which has been supposed to be the stimulant principle of the medicine.
10. *Sulphates of lime and of potassa.*
11. *A brown acid.*
12. *Lignine or woody fibre.*

and after this state is over, the pale, clay-colored aspect of the alvine discharges indicates a greatly diminished excretion of bile. The stimulant effects of a moderate dose of opium are soon dissipated; and the administration of a much smaller dose after a short interval, produces more intense effects than the first dose, although the reverse of this follows the continued use of the drug. If the opium be taken on an empty stomach, the excitement is greater than when it is swallowed soon after a meal: in the first case the pulse remains small, although hard, and symptoms of cerebral congestion rarely appear; on the contrary, symptoms of congestion appear sooner, and are more obvious, if the same dose be taken just after a meal. From experiments made by Dr Crump and others, it is evident that the exciting influence of opium differs little from that of other stimulants; but the sleep which follows the excitement of wine and ordinary stimulants differs from that procured by the influence of opium; nor do these possess the power of opium in relieving pain: it is therefore fair to conclude that, in its sedative influence, opium is distinguished from all other stimulants.

Although it is probable that the effects of opium on the living system are attributed to its direct influence on the nervous energy, yet it must be admitted that there are facts which tend to shake this opinion; and one of the strongest is related by M. Barbier, from which it appears that an infant was affected by the milk of its mother, who had taken a large dose of the wine of opium. But as alcohol is undoubtedly taken up by the absorbents, it is probable that the absorption of the opium in this case is to be attributed to the vehicle; and it is only by admitting the direct influence of opium on the sentient extremities of nerves, that we can explain the relief obtained in instances of severe pain.

Many circumstances, as has been already stated with respect to narcotics in general, modify the operation of opium on the living system. The first of these is age: opium operates with most energy on the young, consequently the greatest caution is requisite in administering it to infants, in whom it often excites convulsions; even in the state of syrup of poppies, too often administered to infants by lazy nurses. A low, irritative febrile state, depending on the continued cerebral excitement produced by the medicine, gradually brings on marasmus, and undermines the powers of the constitution. The influence of sex is less than that of age; but still experience has proved that women are more easily affected by opiates than men.

The effect of custom, in modifying the influence of opium on the system, is so well known as scarcely to require it to be noticed. The extent of the dose to which it may be carried by those in the habit of taking it daily is wonderful, but still larger doses may be given to allay pain and spasm. Dr Chapman mentions that, in a case of cancer in utero, he has given the tincture to the extent of three pints in twentyfour hours, without any other effect than that of relieving pain.

The combination of other substances with opium greatly modifies its action on the system. When combined with antimonials, not only are its diaphoretic powers increased, but it is rendered less likely to impede the other secretions. With acids, half the usual dose will produce the effects of a full dose, an effect evidently resulting from the production of a more soluble salt, the acetate, the citrate, the sulphate or the muriate of morphia, according to the acid employed. When we order it with the view of procuring sleep, we should not combine aromatics with opium, as these increase its stimulant, but lessen its sedative influence.

Morphia, the active principle of opium, exists, as we have already said, as a bimeconate in opium; but when it is separated from the other components of the opium, it is generally administered in combination with acetic, or muriatic, or sulphuric acid, as an acetate, a muriate, or a sulphate.* Any one of these salts, when administered in doses of a quarter of a grain repeated at short intervals, causes a sensation of fulness in the head, some obscurity of sight, tingling of the ears, cephalalgia, vertigo, and a tendency to sighing and sleep. The pupils are sometimes dilated, at others times contracted, and sometimes are not at all affected; the pulse is not much accelerated: occasionally there is a sensation of itching all over the skin, frequently nausea, and a difficulty in passing urine. In large doses the cerebral excitement is alarming. From some observations made by M. Bailly, in the Hôpital de la Pitié in Paris, it appears that full doses of acetate of morphia sometimes excited shocks like those of electricity, when the person was lying in the horizontal position: the muscles lost much of their contractility, and the sight was greatly impaired. As, in these cases, the pulse was diminished both in force and frequency, Bailly was led to infer that morphia acts as a sedative on the heart, and as a stimulant on the nervous system; it would, perhaps, be nearer the truth to say that it acts as a stimulant on the nerves of sensation, and as a sedative on those of motion. It seldom increases the temperature, although sometimes its salts greatly augment the exhalent function of the skin. In over-doses, while the upper part of the body is bathed in a viscid sweat, the lower extremities are cold; there are violent tremors; the body acquires a livid hue; the face has a pinched and cadaverous aspect; and death ensues without convulsions.

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* Acetate of morphia is thus prepared: a specific quantity of morphia dissolved in alcohol is saturated, accurately, with pure acetic acid; and the solution evaporated with the gentle heat of a vapor-bath to dryness. The sulphate is prepared in a similar manner, care being taken to employ the acid in a dilute state. The muriate may be readily prepared by precipitating an aqueous solution of opium by means of muriate of baryta; a meconate of baryta, which is insoluble and falls to the bottom of the fluid, and a muriate of morphia which is soluble, are obtained. By evaporation of the fluid, the muriate crystallizes in tussocks consisting of aggregations of acicular crystals; by pressing these between colorless blotting paper, the narcotina is separated, and the muriate obtained in an impure crystalline state. It is purified by repeated solutions and recrystallizations.

The black drop has all the properties of acetate of morphia in combination with aromatics.*

From what has been said, it is evident that in prescribing opium we must always keep in view both its stimulant and its sedative influence.

Practical employment of opium. — In *intermittent fevers* the employment of opium is as old as the time of Galen. The best time for administering it is an hour before the expected paroxysm, as at this time it weakens the force of the attack, and sometimes prevents its accession; a result probably due to its stimulant property, while, at the same time, its sedative quality allays the morbid irritability connected with ague. The dose should be large; for example, from forty to sixty minims of the tincture. When given during the hot stage, as Lind recommended, it renders that stage shorter and milder, lengthens the intermission, and greatly promotes the influence of bark or the sulphate of quina in curing the disease. In combination with calomel, in doses of a grain of each, it also enhances the sanative powers of tonics, in cases which resist them when given alone. But if opium fail to check the accession, it should not be given in the succeeding paroxysms, as the repetition of it in such a case only tends to induce debility.

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* The black drop is prepared by rubbing half a pound of opium, reduced to powder, with four pounds of verjuice, one ounce and a half of nutmegs, half an ounce of saffron, and three ounces of sugar. These ingredients are fermented with yeast for six days; the fluid is then to be decanted, filtered, and inspissated in the air to the consistence of syrup. The strength of the black drop compared with that of tincture of opium is as three to one. An excellent preparation, which owes its activity to the citrate of morphia, is ordered to be thus prepared in the Brunswick Pharmacopœia. 'Dissolve four ounces of opium in fortyeight ounces of water, acidulated with six ounces of lemon-juice; filter and evaporate to the consistence of an extract in a water-bath' The citric acid, in this case, decomposes the bimeconate of morphia, and affords a more soluble salt, the citrate of morphia, which is conjoined with the gum and extractive of the opium.

In *continued fevers* the use of opium is more questionable than in intermittents. It should not be ordered if the temperature of the surface be much greater than natural, unless there be a tendency to perspiration, which it accelerates, and thence proves beneficial. If pain and watchfulness demand its use, the dose should be large, and it ought to be united with calomel and tartar emetic, a combination which greatly lessens its stimulant properties. In this combination and with James's powder, Dr Currie employed it with great advantage after the cold affusion. In the advanced stages of typhus, opium is useful as a general stimulant, in doses of from six to ten minims of the tincture, or from three to six minims of the black drop, in combination with camphor and other cordials. When, in the early stage of continued fever, the pulse is full and hard, the heat of the surface greater than natural, the thirst considerable, and there is much headach, the use of opium is not admissible. Even in the sinking stage of this disease, wine is a better and more permanent stimulus. In typhus, the symptoms that chiefly indicate the use of opium are low muttering delirium, watchfulness without increased heat of skin, diarrhœa, and subsultus tendinum: the dose should be small, frequently repeated, and cool air freely admitted to the chamber of the patient. If the delirium, however, be accompanied with flushing of the face, impatience of light, and throbbing of the temples, it must not be administered.

If opium be prescribed to counteract watchfulness, it should be recollected that this may arise from very opposite causes. When it is accompanied with great heat of surface, restlessness, tossing about in the bed, and determination of blood to the brain, it proves deleterious; if none of these symptoms are obvious, then opium is the best means for overcoming such a state of watchfulness. It should be given in full doses, in a solid state combined with calomel, at the usual time of rest; and during its operation the scalp should be kept cool by enveloping the head in a cloth wet with a cold lotion. In low delirium it may be given at the same time as ammonia; but if, as sometimes occurs, it increase the delirium when it is taken into the stomach, then it may be applied by aid of friction dissolved in oil.

The best preparations of opium are the *tincture* of the pharmacopœias, the *black drop*, the *liquid laudanum of Sydenham*, the *solution of the muriate of morphia*, and the *acetate of morphia.*

With regard to the extent of the dose, it should be held, as a general rule, that double that which is required to produce sleep in a state of health should be administered in disease; if acetate of morphia be preferred to any of the other preparations, when narcotic not hypnotic effects are desired, the following formula will be found useful:

℞ Morphiæ, gr. ii.
Acidi acetici, *m* ii.
Misturæ amygd. amaræ, *f* ℥ vi.
Syr. tolutani, *f* ʒ i.

Tere morphiam cum acido et syrupo, dein adde misturam. Sumatur quarta pars sextâ quâque horâ.

In the *phlegmasiæ*, notwithstanding the general rule that opium should not be administered during the presence of active inflammation, until the system have been relieved by bleeding, there are cases in which it proves highly useful; as for instance, when the inflammatory action is of a passive kind, as in malignant ulcerated sore throat, and in chronic rheumatism. But even when it is of the opposite description, as in pleurisy, if venesection be freely employed, nothing is so likely to subdue permanently the inflammatory action as large doses of opium in combination with calomel and tartar-emetic. When the inflammation is in the substance of the lungs, as soon as dyspnœa is relieved, and the symptoms are reduced to cough and restlessness, opium may be given with the hope of the greatest advantage: indeed, all acute inflammatory affections of the chest may be benefited by opium thus preceded by antiphlogistic measures. In peripneumonia notha, both in that variety which constitutes the catarrhus suffocativus of old age, and that in which there is a congestion of blood in the pulmonary vessels, opium is useful. In the first place it forms an active and useful ingredient in stimulant expectorant mixtures, with ammoniacum and squill; and in the second, after the congestion is partially relieved, the liberal administration of opium in combination with demulcents is productive of much benefit. It may be said that this opinion is at variance with the common idea that opium retards expectoration; but in reply to this objection, let us examine what the state of the chest is in pneumonia. We find that the pain is aggravated by a full inspiration, and that in order to obtain this, the patient must be nearly in the erect posture. Now, under this state the necessary change cannot be effected on the blood; and in the irritable state of the bronchial membrane the secretion of its natural mucus is hurried, and the sputa consequently thin and acrid. In this condition, opium, acting through the pneumogastric nerves, allays pain, and enabling the patient to take a fuller and more perfect inspiration, it is easy to comprehend how a thicker and more slowly secreted mucus will be coughed up more easily than a thinner and more irritating matter. It is on this account that opium, instead of restraining, frequently promotes expectoration.

Much difference of opinion exists respecting the employment of opium in hemorrhages. When febrile symptoms exist, these should be subdued before opium is prescribed; when the hemorrhage is connected with much debility, laxity of the solids, and a thin state of the circulating mass, then opium in combination with astringents and tonics should be administered to allay the irritability which always accompanies this state. In hemoptysis, when no inflammatory state of habit exists, when the bleeding is kept up by cough, and is accompanied with watchfulness, opium is likely to prove useful: in the opposite state, if much irritation exist, it should be combined with either digitalis, or acetate of lead, or hydrocyanic acid, and cold both topically and generally applied.

In no disease has opium been more frequently employed than in dysentery; but there is much difference of opinion as to the propriety of this practice. If pains and tenesmus continue after the bowels have been freely evacuated, opium, combined with ipecacuanha, will be found useful; but during its use the bowels should be freely evacuated once at least in twentyfour hours. When the tenesmus is very urgent, the opium should be exhibited, in conjunction with demulcents, in the form of enema; and towards the close of the attack, when the disease may be regarded as having passed into diarrhœa, opium is the proper remedy. In bilious colic, and some other affections of the bowels in which pain and spasm arise from the action of highly irritating matters on the coats of the intestines, and in which purgatives do not act freely, experience has proved the propriety of combining opium with purgatives. In conjunction with calomel in large doses, it allays the irritation both of the stomach and the intestines, removes spasm, and consequently aids the operation of the purgatives. Indeed, in all spasmodic affections opium is the remedy to be relied upon, whether the spasm arise from the action of some irritating substance on the moving fibre, or from irritation kept up by debility: the cure consists in removing the irritating cause, and diminishing the susceptibility of the muscular fibre by restoring its tone. The term 'almost all' is employed, because in some spasmodic affections opium seems to produce deleterious effects: thus in hay asthma it augments fever, headach, and the suffocative tightness across the chest, which characterizes that singular disease. To answer both the above intentions opium is admirably adapted, when it is given in combination with sulphate of quinia and other tonics.

In syphilis, opium has been used as the sole means of cure; but although experience has demonstrated that opium cannot be relied upon for this purpose, yet as an adjunct to mercury it is of great value: it enables the system to bear a large quantity of mercury with impunity, and also allays the state of morbid irritability which frequently remains after the cure of syphilis, and consequently, favors the return of health.

Besides the benefit arising from the employment of opium in the diseases already noticed, advantage is also taken of its administration in many morbid states of the system, to lessen irritation, to relieve pain, and to induce sleep; and undoubtedly, whether it be taken into the stomach or applied to the surface of the body, its place for these purposes can be supplied by no other substance. But, like some of the choicest gifts of Providence, it is abused and frequently employed as a poison, and this statement might be closed by tracing the symptoms produced by an overdose of opium or of its salts, and pointing out the remedy; but for this information we must refer our readers to authors on toxicology.

ART. IV. — PULMONARY CONSUMPTION.

Illustrations of Pulmonary Consumption. By SAMUEL GEORGE MORTON, M. D. Key & Biddle, Philadelphia, and Allen & Ticknor, Boston. pp. 183.

ALTHOUGH, in a suitable notice of this valuable work, we are somewhat behind most of our cotemporaries in point of time, a sense of duty will not permit us to be a whit behind them in our commendation both of its design and execution. It is quite an event in these days of lectures, epitomies, dictionaries, cyclopædies, &c, to meet with anything like a systematic treatise on any particular disease; but an entire volume, of respectable dimensions, on phthysis, is at once a novelty and disideratum, even the undertaking of which has especial claims to our admiration. A novelty—for, notwithstanding the activity of the medical press for the last eight or ten years, this formidable disease has by no means received its share of attention. If it crossed our reading occasionally in hospital reports, it was chiefly as a convenient means of illustrating the wonderful capabilities of the stethoscope, or of exercising the mincing operations of the numerical pathologists, and not in attempts to trace out its causes, nor suggest an improved treatment. Perhaps the little practical advantage which seemed to have resulted from the investigations of eminent physicians, in this disease, contributed to render other departments of professional study comparatively more inviting. For, notwithstanding the efforts of Young, and Duncan, and Rush, and Beddoes, and a host of others like them in zeal and ability, during the first quarter of the present century, consumption has still maintained its preëminence among the destroyers of our race, and in defiance of the best appliances of the healing art, strikes its victims with nearly the same assurance of success as ever. By this remark we would not be thought to disparage the noble labors of those friends of science and humanity, nor to countenance the popular error of estimating medical studies by the apparent success of the treatment to which they have immediately led; but only refer to one of the causes of the neglect which phthysis has lately experienced in the literature of our profession. Doubtless other influences have contributed to divert medical scholars from this subject, which at one time indeed seemed to be an exhausted one; but the discouraging sentiment that consumption was an incurable disease, and destined to be a perpetual 'opprobrium' of our art, gave a forbidding aspect to investigations which would otherwise have been most inviting. But if such hopeless views of the subject were ever generally entertained, they cannot be at present, since we have the best evidence that cases of the very worst form of phthysis have recovered, if they may not be claimed as cured. And even if it were not so, in a disease so lingering, and tedious as this generally is, professional research and ingenuity may be most gratefully employed in devising palliatives, and in administering to the comfort of that life which they cannot preserve. Dr Ferriar wrote a book on the treatment of the dying, which at once illustrates his humanity, and secured for him a blessing peculiarly precious, 'the blessing of them that are ready to perish.'

Physicians will be unfaithful to the light and advantages of the present day, if they do not return to the investigation of consumption, with a determination and hope of arriving at some new principles of Hygeine, and rules of practice which shall reduce both the frequency and fatality of its attacks. Dr Morton has made a good beginning, and we hope his example will soon be followed by others, who, like him, will so far break away from the straitened method of study now in vogue, as to reason a little, as well as observe. Neither the Stethoscopits nor the Numericals, will ever teach us a successful treatment of phthysis, nor suggest those alterations in the social system, or personal habits, which may tend to extinguish the predisposition to its attacks. For these great desiderata we must look to a more liberal course of study, and to the labors of men who will compare and generalize as well as make observations; who think it as scientific and useful to reason on their cases as to count them, and who will now and then venture on an inference.

The work before us is divided into nine chapters, and concludes with an appendix, and twelve plates, presenting colored drawings of various morbid conditions of the lungs, which are among the handsomest things of the kind we have ever seen. The pathologist and his artist both deserve the satisfaction of an assurance that no person who has inspected the bodies of consumptive patients, can fail to recognise, in these plates, appearances which have often presented during his dissections, and which will here be recalled to his mind vividly and distinctly. They remind us of Dr Bailey's plates of hepatic disease, and if others appreciate those as we do, we could say nothing more complimentary to Dr Morton, than this comparison implies. Most of them are taken from cases which are given at length in the body of the work.

The first chapter is occupied with an account of morbid conditions of the lungs which are observed to coëxist with phthysis. We learn here what is declared more distinctly in subsequent parts of the volume, that the author employs the term Phthysis, in a much more restricted sense than is commonly applied to it. He limits its application to *tubercular disease* of the lungs, and of course, excludes many cases, which have all the symptoms and even the physical signs of the orthodox affection. Now although nosology is the last thing we should think of disputing about — it is really too inconsiderable a matter, and although we concede to every author in general the right to use terms and names as he pleases, provided he accompanies them with an explanation of his meaning, we are decidedly of opinion that the etymological significancy of scientific terms should never be disregarded. But *phthysis* is derived from a Greek verb which signifies 'to dry,' or 'waste away,' and refers to that progressive emaciation which is one of the most constant phenomena in every form of disease to which any authors have applied that specific name. 'Most of the changes noticed in this chapter,' says our author, — *Adhesions, Effusion, Purulent Infiltration, Pulmonary Catarrh,* &c, — 'may be either causes or consequences of phthysis; although the nicest examinations do not always enable us to say which has been the primary and which the secondary affection.'

The second chapter is on the 'Anatomy of Tubercular Matter' — a topic on which we recently offered our views at large in a notice of Dr Carswell's plates. It contains interesting cases pertinent to the purpose for which they are cited, and exceedingly well reported, a remark which is equally true of most that appear in the volume.

Chapter third contains the author's 'Pathology of Phthysis.' If his views were reduced to a definition, he would say, as we have before intimated, that 'phthysis is a *tubercular disease* of the lungs.' In this, however, we cannot but think that he is unconsciously biassed by authority, in contradiction to his own experience. For, on page 27, we find him stating his opinion, in the words of his preceptor Laennec, that 'tubercles in the lungs are the cause, and constitute the essential character of phthysis,' and adds, that 'M. Louis states that he never met with an exception; *and but three unequivocal examples have fallen under my own notice.'*

He sums up the pathology of tubercular disease, at the close of the chapter, in the following propositions:

1. Tubercles are an altered secretion of the albuminous halitus proper to the cellular tissue, forming the parenchyma of organs.
2. Inflammation is not necessary to their development.
3. The cellular tissue which envelopes and intersects tubercles, sooner or later takes on inflammation, and secretes pus; by which process the tubercular matter is eliminated, and an abscess is formed.

The 'Causes of Consumption,' are considered in the fourth chapter, which is philosophical, discriminating and practical:

'Let us next inquire, what are the physical characters of the tuberculous diathesis? From time immemorial they have been supposed to consist in a fair skin, light hair, blue eyes, thick lips, long neck, narrow chest, projecting shoulders, and meagre person; and yet even in this country, where fair features greatly predominate, my observations are so far from confirming this rule, that almost two-thirds of the phthisical patients who have come under my notice, have had dark hair, dark or sallow complexions, and dark eyes. Of the remaining third, a large number had reddish hair, and what is called the sandy complexion. With respect to the conformation of the chest above mentioned, I have met with very many exceptions to this also. It seems, therefore, extremely difficult to detect the tuberculous constitution by any physical characters of even general application; and still more difficult to identify it with the scrofulous diathesis.'

The 'Symptoms of Phthysis' are but too familiar to all our medical readers. They are very truly stated by Dr Morton, and the predominance or absence of some one or more fairly illustrated in several instructive cases.

The two next chapters are on the 'Complications of phthysis with other diseases,' and contain many valuable cases and remarks. He thinks that hepatic affections are in most cases consecutive, and that tracheal phthysis may exist as an independent disease, and destroy life without organic affection of the lungs.

The eighth chapter is devoted to the 'Physical Signs' of phthysis, and afforded us an agreeable disappointment. For, observing in the preface, that the author had enjoyed the instructions of the celebrated Laennec, we anticipated an elaborate glorification of auscultation in general, and of the stethoscope in particular. But our author's good sense transcended his deference for the hobby of his admired preceptor, and his comments on this mode of investigation are brief and modest; the more so, we are inclined to believe, from the uncommon advantages he has enjoyed and improved, of testing its practical value by his own experience.

The concluding chapter on treatment is very satisfactory and useful, containing some new suggestions, but chiefly valuable as a compend of the medicines and appliances which have been used with most advantage in this unmanageable disease. His views of the treatment of hæmoptysis are particularly sound, condemning the indiscriminate use of the lancet, which is too often observed. The following remarks on catarrhal symptoms, are also worth repeating:

'It has been aptly remarked by Dr Wilson Philip, that the mildness of the first symptoms of phthisis constitutes a great barrier to efficient practice; for we can scarcely persuade a patient that he is in danger when he suffers no pain, and scarcely any positive inconvenience; and yet, under these very circumstances, a fatal malady may be undermining the springs of life.

'Without suspecting every protracted cough to be a harbinger of phthisis, it is well to remember that not only can consumption excite a cough, but a cough also may induce consumption; whence the importance of getting rid of catarrhal affections without delay.

'When, however, catarrh becomes protracted, and is attended by emaciation, languor, and some fever towards or in the night, it requires great attention. It is most readily removed by leeches or cups to the infra-clavian regions; and the frequent use of gum water slightly acidulated with lemon juice, and containing a little morphia and emetic tartar.*

'If the catarrh be of an aggravated form, whether in the first or in the more advanced conditions of phthisis, and especially when, as often happens, the cough is almost incessant, full doses of morphia should be administered, and repeated at intervals until repose is procured for the patient. A blister to the chest sometimes gives relief; but if a blister be large and kept open

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* The following prescription will be found a good one:

R. Mucilaginis gummi arabici,	oz. ixv.
Syrupi tolutani,	oz. ij.
Morphiæ sulphatis,	gr. iss. vel ij.
Antimonii tartarisati,	gr. ij. Misce et signa.

A table-spoonful to be taken every two hours. When from any cause the antimony is objectionable, it may be replaced by a drachm or two of sp. nitri dulcis.

by irritating substances, it not unfrequently aggravates the fever, and consequently the cough, dyspnœa and other symptoms. Blisters, therefore, should be so cautiously managed, as to create a local discharge with the least possible constitutional distress.

'But I am convinced by incessant observation, that no plan of treatment so effectually banishes an incipient catarrh, or relieves a chronic one, as a change from the city atmosphere to the pure air of the country, or a sea voyage.

'It often happens that a dry catarrh suddenly supervenes, causing an intolerable cough, and consequent soreness of the pulmonary apparatus. The main object is of course to restore the mucous secretion, which at once relieves the urgent symptoms. I have found a combination of copaiva with Hoffman's anodyne to produce this effect more happily than any other medicines, directing the patient at the same time to make a free use of acidulated mucilaginous or farinaceous drinks.'

The observations on diet, clothing, sea voyages, changes of climate, &c, are very judicious, and would afford many agreeable quotations for our readers; but we prefer to advise them to read the whole as the author has connected them. The chief fault in this, as in every part of the volume, is that there is not enough of it, and we conclude our notice with the words of one of our cotemporaries, in the sentiment of which we concur — 'Dr Morton has committed the rare fault of having written *too little.* In saying this we mean to confer praise; but we likewise mean to convey censure.'

ART. V.—DR REYNOLD'S LECTURE.

A Lecture on the Importance of Physiological Knowledge to Parents amd Teachers. By EDWARD REYNOLDS, M. D. pp. 31.

THIS discourse was delivered at the last annual session of the American Institute of Instruction, and is eminently appropriate for such an occasion. A great portion of those to whom it was addressed were persons actually engaged in the education of the young, and if they did not derive from it some valuable hints to a wise exercise of this high function, and determine to improve by them, they certainly lacked the first qualification of a good teacher — the being good learners. The leading purpose of the writer is to enforce the necessity of a more strict observance of the 'organic laws' in the conduct of education, and he does this, in the first place, by impressive observations on the bodily and mental diseases, the premature exhaustion, and the permanent imbecility which so often present themselves to the medical observer, as the melancholy but inevitable penalties incurred by the disregard of those laws, in our schools and in domestic discipline. For these evils, the remedy he proposes, is a more universal acquaintance with the general principles of physiology, than at present is sought or acquired by parents and teachers.

They would then see for themselves which were the mischievous elements in the present systems of education, and understand how they operated to the disadvantage of the tender subjects of them. For an illustration of this, the Doctor is very happy in the views he offers of the physiology of the brain, and of the manner in which the intense competitions, and other stimuli commonly applied in schools, operate, to produce not only derangement in the *functions* of this susceptible and frail organ, but not unfrequently, to work changes in its *structure*, which are speedily fatal. The whole philosophy of the discourse is sound, and its style appropriate for a didactic exercise. We trust that this is but the beginning of the author's labors on this important subject. His talents, attainments and philanthropic temper, as well as what we know of his peculiar opinions and sentiments in regard to it, establish a claim on him for some future more extensive publication on the philosophy of what Dr Spurzheim called the 'first education.'

COLLECTANEA.

DENTITION.

In man, endowed as he is with a proportionate large share of brain, the influence of circumstances operating through the nervous system may tend very materially to anormalize the trains of growth, and to irregulate the periods of organic development. The artificial habits to which he appears, under the present arrangements of Society, to be destined, are constantly productive of injury to the frame; and though no animal appears to have so elastic a power of adaptation to nocent circumstances, he cannot altogether escape their force.

These observations are no where more strikingly illustrated than is the phenomena which occur during the progress of dentition; a train of development that presents epochs in life often irregular, in civilized communities always more or less stormy, and that, from the intimate alliances which subsist between the brain and nutrient organs, entails consequences of great importance.

The changes which the teeth undergo in the progress of their growth form a very curious and a very interesting subject of inquiry. There are, perhaps, no occurrences relating to the changes of the body during life, more striking than the manner in which all the rudiments of the teeth are disposed in the jaws. The structure of these rudiments is so curious — the mode of their alteration, their evolution not hasty, but at distinct and marked periods — their symmetrical consent in arranging themselves in pairs round the circumference of the alveolar arch — their relations to this arch, and the consent which obtains between the development of this part of the body and the growth of the teeth themselves — the changes of maturity, and decay in the first set, and their replacement by another — are all subjects for deep reflection.

Regarding them simply, then, as isolated portions of the general organism, the history of their development is full of remarkable phenomena; but looking to their sympathies as organs of a curiously complicated structure in alliance with the brain, nearly related to the other organs concerned in nutrition, and furnished with nerves that are linked with the great sympathetic, the varied influences they possess afford a most extensive subject for observation. We may ask, what are the most essential circumstances attendant upon a normal development of the teeth? and what are the causes tending to anormalize it?

The bones are regarded as the solid framework upon which all the rest of the body is built, and although we know that ossification commences at an epoch posterior to the existence of some other organs and although we are aware that a moulding of bone is thrown over some other important part of structure which has previously existed, we are no less right in giving its due share of importance to the osseous fabric. In all parts of the body where the bony development does not proceed in a normal train, there is surely some error of structure in its vicinity. The functions of the part to which the bone serves as a standard or defence, cannot be performed in a manner consistent with *perfect health.* Disease of any kind in a bone entails mischief to the functions of the muscles in its neighborhood, or with which it may be connected; nor is this the only inconvenience that may result. The whole body depends for its health on the existence of a due harmony between all its parts, and the moment when that harmony becomes disturbed, there is a discordance established, which more or less extensively affects the health of the system. The alliance between bones and muscles is very intimate, and the healthy growth of each depends upon the due performance of the functions of the other. The shape of a bone cannot be quite normal, if the muscles that are in connexion with it do not rightly and according to rule perform their duty; nor, on the other hand, can a muscle be in a perfect state of structure and health, if the figure of the bone to which it is attached be in any way imperfect. The habits of society are in many respects so irrational, that the measures conducive to the healthy performance of the various functions of our bodies seldom enter into our thoughts, and the influence of education in the healthy moulding of our frames, though occasionally considered, it is not applied in a philosophic manner to produce the results which might emanate from a wise direction being given to the events of a course of life. We may see a highly educated musician fingering with a curiously graceful facility the keys of a pianoforte, without reflecting on the inevitable improvement that must take place in the development of the bones, the tendons, and muscles of the hand and arm. We may reflect on the means which render the chest and the arms vigorous and well developed in the frame of a boxer or of a rowing boatman; but the facts, although striking, are not applied with any philosophic care in our schemes of education, to the training of the human form, in order to promote a healthy development of its organs, — a growth unattended by pain, inconvenience, or sympathetic evil.

We think little of the direction which may be given by art to the trains of growth, so as to determine the perfection of the most beautiful as well as most healthy form of which it was intended that the organs of the body should be susceptible. The vile taste and unnatural fancies that prevail on the subject of dress, are quite sufficient to bear out the justness of this observation; and it is very curious to remark, how far the influence of these circumstances reach, in not only disfiguring the external aspect of the trunk, but in promoting, under various conditions, aberrations from normal shapes and structures in parts little considered by the mass of mankind to be under their pressure.

It is quite true that the whole fabric is formed of parts so curiously allied one to the other, that the irregulation of one important organ drags after it other parts which share in the mischief it has suffered. Hence we find that in frames not vigorous enough to withstand the effects of badly applied dress, the bones become turned out of their normal relations to each other: the muscles allied to them are altered in their symmetry, size, shape, and direction: that other important organs suffer errors to be established in them in a manner that has been little noted as influenced by such causes.

If an individual with a curved spine be observed, in whom any remarkable gibbous state is present, we cannot fail to notice the effects entailed on the countenance, and the consequent expression which is given to the features; but we observe this consequence very seldom, if the curvature has not dragged the face after it in a very striking manner. Nevertheless, the consequence does follow the antecedent circumstance, and its degree may have been sufficient only to diminish the size of the jaws; to render them too small for the space which nature requires as the normal dimension for the proper development of the teeth.

It is very reasonable to believe that, if there be not sufficient space in that part of the bony fabric in which the teeth are placed for their full growth and proper position, they cannot be normally developed. The most essential circumstance, then, attendant upon a normal development of the teeth is a normal and consentaneous growth of the jaws.

We have already regarded some of the circumstances which may tend to anormalize the growth of the jaws. But there are others which may be considered at a future period, and in a more advanced condition of civilization, when the folly of many of the passions in which we now indulge, and the ignorance of the habits to which in the present state of society we liberate ourselves, shall be fully understood and allowed as, the causes operating to produce not only deviations from normal structure and consequent misery to individuals, but a tendency in numbers to form diseases that may reverberate upon the community. There may be habits among individuals, or among classes, that may have the influence of making the nisus of development more energetic in one part, and more sluggish in another. The frame being habitually submitted to the modelling which certain trades and occupations force upon it, is apt to lapse into a diseased condition, altering the relative normal influence exerted by one part upon another. The inevitable necessity of living in a large town has so powerful an effect upon the nervous systems of some persons, as to be destructive of the balance that ought to exist among the organs in a healthy state. These and many other circumstances may be found to operate either immediately, or through intervening events, upon the growth of the jaws. Rickets appear in individuals, and if the disease arrives at a time of life when the teeth are not fully developed, it may tend very materially to anormalize the relative trains of growth. May not a *vitiation* of the jaws result from the mind being accustomed to certain habitual trains of thought, or from bad habits that induce those trains, which give an expression to the countenance determining the configuration of the face? An anormal state of the jaws may be the consequence of disease superinduced by the ill-advised practices of ignorant parents.

Dr John Clark, in his Commentaries on the Diseases of Children, p. 46, says, 'It cannot reasonably be maintained that a child's mouth without teeth, and that of an adult furnished with the teeth of a carnivorous and granivorous animals, are designed by the Creator for the same sort of food;' and yet, notwithstanding the clear injunctions enforced by this talented physician, the practice of feeding infants with materials unfit for their tender stomachs, obtains very commonly in quarters where it ought long ago to have ceased. There is no reckoning upon the amount of influence which improper food taken into the stomach at the tender age of infancy, may have upon the progress of growth in the jaws. Improper food itself commits an injury upon several parts of the alimentary canal, which may recoil upon the structure of the jaw. In very young infants of a highly irritable and mobile condition of nervous system, if any other food than human milk be given, there is in many cases an immediate diarrhœa, with rapid atrophy, and an aspect of countenance which must tend to alter the healthy modelling of the jaws. There is an effect of indigestion that may be called the sensation of physical grief: it is felt at the back of the fauces and along the throat, and resembles the sensation which those know who have suffered from mental grief. Its tendency is to depress the countenance, and consequently in a certain degree to interfere with the progress of development about the face. Perfect health requires a certain joyous expression, and the absence of all evil trains of thought. In childhood, especially, should complete happiness prevail. It is hardly necessary to point out the incompatibility of habitual indigestion and cheerfulness.

But there are other requisites to a normal development of the jaw which improper feeding denies to the infant. The normal consent between the muscles of the jaw and the muscular structure of the stomach, is unhinged — the balance is destroyed, and the stomach has to perform a share of duty never intended for it. In the carnivorous animals, the muscular apparatus of the stomach has a development bearing an inverse proportion to the muscles of the jaws, (Bichat, Anat. Descrip. t. ii. p. 40); and certainly in man the ratio does not approximate to the type of the ostrich. The lower jaw is so articulated with the upper that it is capable of various motions, when acted upon by any of its five pairs of muscles. In the act of sucking, each of these muscles performs a share of duty, and the correct progress of growth in each muscle depends in some measure upon the shape of the body submitted to the mouth, and the consequent practice and direction of the forces exerted upon that body: hence the course of practice of the jaws, the mouth, the tongue, and their muscles, cannot be the same, if exerted upon spoon meat, as upon the nipple of a woman's breast. Nor is this all. The muscles attached to the jaws are associated with other organs in the train of their duties. The bloodvessels, absorbents, and nerves, the salivary glands, and the follicles of the mouth, are dependent for their healthy action upon the formality of neighboring parts: the influence of the whole set of organs is necessary for the existence of a harmonious consent, without which development is irregulated. Growth to be correct in the jaw implies the requisite performance of all the functions of the organs in its neighborhood. If any organ be in fault — if its functions be arrested, its growth, too, is retarded; nay, in some cases, it dwindles: at its expense, some other organ is developed in an undue proportion; perhaps the muscular structure of the stomach may be the part that acquires a morbid growth, and consequently obtains a morbidly disordered function that recoupes upon the development of the jaws.

A question to which, in the present state of our knowledge, it would be very difficult to reply, is, How far may irregular formation, induced by the unphilosophical artifices of society, be reverberated in the structure of offspring? Each child, of a train born at successive periods of the parent's life, retaining the resemblance of the organization peculiar to the parents at the time it was called into existence, may under this idea have laws impressed upon its fabric, which shall determine it to assume all the errors or anormal peculiarities acquired by the faulty habits of the parents. Without some admission to this effect, we find it difficult to understand how, in certain families, through successive generations, there is a prevalence of narrowness about the chest — a tendency to curvature of the spine — a proneness to a diminution about the pelvis — the existence of jaws too small for the teeth. When the philosophical anatomists have unfolded to us a few more views, it may be that we shall be enabled to trace with greater accuracy the sources of deviation from normal form in families. Meantime, enough is established to allow a conviction that there are certain laws governing even the deviations from usual and convenient structure, and where these laws have begun to operate before birth in fixing a tendency to the vitiation of the jaws, we have at present only left to us to watch the facts connected with them. If the type of configuration in a family be anormalized, we know little about the causes; we are not yet sufficiently advanced in knowledge to be able to trace all the sources of congenital malformations. — ***Dr Ashburner.***

THE HYDROSTATIC BED.

To the Editor of the Medical Gazette,

SIR, — I beg to inquire of any of your correspondents who have used the hydrostatic bed, the best mode of preventing the inconvenience arising from condensed perspiration. Living in a remote part of the country, without an opportunity of seeing one, I have had a bed of this description constructed, which succeeds in every respect, except that the perspiration, sensible or insensible, is condensed in such quantity, as to saturate with moisture every thing beneath the body. I endeavored to remedy this by a sheet of corks netted together, with interspaces about equal to their own size, by which a stratum of air might be admitted to the under surface of the bed, which might carry off the moist vapor, and prevent its condensation. If the interspaces are larger, the corks are impressed into the surface of the water, and the water-proof cloth collapses with the tissue above. The plan succeeded in part; the moisture was not so troublesome; but still it did not entirely escape.

The desideratum is an apparatus for completely ventilating the under-surface of the bedding, without preventing the water from receiving the impression of all parts of the body, according to their weight; for in proportion as this is interfered with, the advantage of the hydrostatic bed over others is diminished.

I am, sir, Your obedient servant, O.

EFFECTS OF AN OBTURATOR MADE OF DIFFERENT METALS.

A lady, under the care of M M. Nauche and Moncourier, had a great fissure in the palate, through which her food used to pass into her nostrils. A dentist very ingeniously made an obturator which remedied the accident, but caused a remarkable sensation. A metallic taste and a slight numbness were experienced, analogous to those produced by galvanic arrangements. Suspecting that this might be occasioned by the dissimilar metals employed in the composition of the instrument, M M. Nauche and Moncourier put into their patient's mouth two disks of zinc and copper soldered together : the sensation now produced was recognized as similar to that caused by the obturator, differing only in intensity. The dentist was ordered to make another instrument, all of platina — the former being of platina jointed with gold. No sensation was experienced from the new obturator. From this we may gather the necessity of making those instruments of a single metal which are intended to be left in the system. When the metals are dissimilar, an electric current will be established, giving rise to decompositions of the fluids which they touch, and to feelings which may prove very troublesome.

Gaz. des Hôp.

RESECTION OF BONES.

Surgeons have long entertained an opinion which is very injurious, with regard to the resection of bones in cases of ununited fracture. They imagined it was absolutely necessary to cut out both fragments of the bone before a solid callus could be laid down ; hence they avoided this operation in a great number of cases when this double resection was extremely difficult, if not impossible : thus, for examble, they rarely had recourse to it in fractures of the femur, where frequently the fragments ride upon one another ; the upper portion is the only one which can generally be got at with facility, while the inferior fragment, carried backwards and inwards, is too deep seated to be exposed by an incision in this direction while the presence of important vessels prevents any operation on the inner side of the limb. I am inclined to regard this opinion as altogether wrong, and hold that the resection of one fragment is sufficient to obtain the consolidation of both ; at least two cases, in which I employed this practice, turned out successfully. — *Dupuytren's Lecture.*

COMPLETE EXTIRPATION OF THE CLAVICLE.

A case of this rare operation is detailed in the *Journal der Chirurgie und Augenheilkunde.* A man, aged 31, of feeble constitution, was seized, in June 1822, with violent pain in the right arm, simulating rheumatism, for which it was treated, but without avail. In October, 1832, he came to the hospital at Zurich. He was then much emaciated, and laboring under hectic, with an unhealthy ulcer at the acromial end of the clavicle, which was partially denuded. More close examination showed the bone to be carious throughout. Various remedies were employed, both generally and locally, without avail; and it was then determined to extirpate the part. The arm was carried forward as far as possible, with a view of removing the clavicle to the greatest distance from the vessels beneath it; an incision was then made along the lower edge of the bone, and its connexion with the parts beneath separated, partly with the fingers and partly with knife. The capsule of the sternal end was next opened, but in pulling the bone, to disengage it, it broke near the articular extremity. The fractured portion was easily removed, and the fragment at the sternal articulation also brought away without difficulty. The operation was completed in five minutes, and no vessel of importance was opened. The patient did well, being able to perform all movements of the arm forwards, backwards, and upwards. He continued his usual avocations till 1828, when he died of phthisis. — *Med. Gazette.*

COSTUME OF THE ACADEMY OF MEDICINE.

The King of the French has evidently a strong leaning towards the arrangements of the old times of legitimacy; he has just ordered, through his Minister of Public Instruction, that the Academicians of the Faculty shall in future wear a sort of Court dress at their sittings. Their uniform is to be a black coat, with violet-colored embroidery for the facings and collar, a sword with gold mounting, and a cocked hat. — *Med. Gazette.*

GENERAL STATISTICS OF BIRTHS.

The following account, taken from the *Journal of the Statistical Society of France*, gives a curious scale of the proportion of male and female births in Europe; the result is the more worthy of attention, as it has been drawn from a scale comprising more than 70 millions of births, in which the cases have been meted: —

For every 100 girls born, there are born in Russia 108.91 boys. In the provinces under Milan, 107.61. In France, 106.55. In Holland, 106.44. In Pomerania and Brandenburg, 106.27. In Sicily, 106.18. In Austria, 106.10. In Silicia, 106.05. In Prussia, 106.94. In Wurtemburg, 105.69. In the Duchy of

Posen 105.66 In Bohemia, 105.38. In Great Britain, 104.75. In Sweden, 104.62. Giving a mean proportion of 116 boys for every 100 girls. The two extremes are formed by Russia and Sweden, and the same results have always been observed in the same country.—*Lancet.*

DELIRIUM TREMENS.

During an attendance on the medical practice of this hospital for the last twelve months, the writer has witnessed four cases of the above disease, and in only one of them was the usual treatment by opium and stimulants successful. This circumstance affords some ground for calling in question the propriety of adhering always to that plan of treatment. The abuse of ardent spirits alone does not appear to be so much an exciting cause, as the consecutive loathing and nausea of animal food, ultimately amounting to a perfect disgust or disrelish for solid matter of any kind. In a case, witnessed by us, of a man who was daily accustomed to take 18 or 20 glasses of gin, and for two years was unable to touch anything but a crust of bread in the evening, the patient ultimately died.

We do not find that those persons who enjoy all the luxuries of the table fall victims to this disease; its fatality is almost wholly among those who, after expending the major part of their earnings in procuring their favorite beverage, cannot supply themselves with the common necessaries of existence; hence, finding that in proportion to an excessive indulgence in drinking, a diminution in their relish of animal food accrues, they hurry blindly on, impressed with the belief, that if they do not drink freely, their strength will forsake them.

Not only in the three cases which we examined, but in others, have we noticed the changes that have taken place in the structure of the heart, especially its muscular parietes, but whether those changes must be attributed to cause or effect, is another matter. The left side of this viscus is found very flabby, so that when cut into, the same collapse takes place as in slitting open the right ventricle. The whole muscle resembles a faded autumnal leaf, and when pinched, is so attenuated and softened, as often to break down under the fingers. The blood, if any be present (which rarely happens), is but semi-coagulated, and assumes the character of sanguinolent pus or curd. As might be expected in this affection, the liver and kidneys are usually found altered in structure, the former being pale from a diminution of its vascular portion, and soft in texture. The same may be said of the kidneys. In them the hypertrophy of the cortical substance is often so great as to remove altogether any trace of the tubulated portion, and the calyces, with their mamillæ, alone afford a channel for the secreted fluid. — *Lancet.*

Diffuse Phlegmon.

The facts just related, continued M. Dupuytren, give you some idea of the character of diffuse phlegmon ; but we must enter more into particulars. The début of diffuse phlegmon, and especially of that which is spontaneous, is announced by a rigor of greater or less severity : this is followed by heat and fever. This fever becomes continued, only it has paroxysms and remissions two or three times a day, and these have often led to such erroneous views as to occasion their being treated by means of cinchona, on the idea of their being attacks of ague. It is not unimportant to keep in mind the distinction between symptomatic and intermittent fever. A slight degree of pain of the skin frequently comes on 24 or 36 hours before the shivering. More than once, where this pain has been the only symptom, I have been able to predict the disease. The skin then becomes red, the tint being that of the rose. This color is not uniform ; and one might as readily anticipate an attack of simple erysipelas as of erysipelatous phlegmon, if a little œdema did not show itself in the subjacent cellular tissue, accompanied by perceptible pitting on pressure. What practitioner not familiar with the affection, could, from such appearances, foretel the approach of so terrible a disease?

The symptoms increased — the fever runs higher — the finger applied, pressed strongly upon the skin, no longer receives any depression, but encounters a marked resistance — the cellular membrane becomes hard — the color passes into a violet, and phlyctenæ make their appearance — the bowels are sluggish — the urine is diminished or suppressed — the patient is deprived of sleep, and his agitation is extreme.

For two, three, or four days, the disease seems now to be stationary. If at this time an incision be made into the part, a milky serum escapes : it is abundant, and with but little pus. A few days later the serosity is scanty, while the pus is plentiful : yet a few days more, and there exudes a discharge as white as milk, and almost as consistent as lard. The cellular membrane is now struck with suppuration *(frappé de suppuration,)* and this is equivalent to saying that it is struck with death. Experience alone teaches one to distrust this deceitful stage: it has often enabled me to declare the existence of suppuration, contrary to the opinion of practitioners less accustomed to the disease.

At length, in a day or two more, the skin bursts, the phlyctenæ pierce the integument, and violet-colored serum exudes. White or black sloughs are perceived beneath, which rapidly extend; the surgeon, then, only becomes aware of these ravages, when they have already run their course. When these portions of cellular membrane are removed, the skin is seen to be detached and undermined, so that it can be raised by blowing under it. Here and there little projections are seen — the only bond of union which remains, and these are composed of vessels and nerves which have resisted the destructive process. Great care must be taken to preserve them unimpaired.

The local ravages are now arrived at their term (when the skin has perished, as well as the parts beneath it), but not so the danger of the patient. You may be satisfied of this from the example of a man in the hospital, who had fallen upon his knee. An erysipelatous phlegmon supervened, and extended rapidly over the leg and thigh, notwithstanding the most active means. The aponeurosis of the thigh was exposed; the tibia and patella were bare to the periosteum; the entire limb was deprived of its cellular membrane and skin. What could the efforts of nature avail against such extensive mischief? Art was equally powerless. A suppuration of enormous extent, amounting sometimes to a pound and a half, or even two pounds, in the day, rapidly exhausted the strength; and this young man, though of the best possible constitution, unavoidably sunk under it. If, indeed, the suppuration were the only bad symptom, something might perhaps have been hoped for from the combined efforts of nature and art; but copious perspirations, and purging to the extent of from ten to twenty stools daily, were conjoined with the preceding. In vain were these also combated, for yet another set of symptoms came on; almost always, indeed, towards the latter stage, does suppuration in the pleura, lungs, or liver, fill up the melancholy picture. More than one half of such patients sink at last from internal inflammations, especially of the liver or lungs. Such is the history of this affection, which proves more fatal than any other of the phlegmasiæ.

Let us consider the chief points attending it. I have particularly alluded to the fever coming on in paroxysms, which appear two or three times a day; it is often mistaken for intermittent, but it is nevertheless a continued fever, and often accompanied by adynamic symptoms, which necessarily produce a change in our treatment. I have long insisted on this period of a deceitful arrest of the symptoms, about the fifth or sixth day, which keeps even the most experienced practitioners in doubt; and so far misleads the experienced, as to induce them to think resolution at hand, when suppuration is already declared. I have also dwelt upon the fact, that while in circumscribed phlegmon the pus is contained in one or two cells, here it fills each particular *cellule* of the tissue, and, after the manner in which when the muscular structures becomes involved in the disease, strangulation takes place, which is speedily followed by gangrene, unless relieved by free incisions. These attacks, less dangerous in children, are always alarming in adults — almost constantly fatal in elderly persons; while, if the patient escapes, the convalescence is of the most lingering kind, the cicatrization very difficult to effect, and the cicatrix always very ready to give way again. But one of the most important points to be attended to, is the state of the digestive organs which precedes, accompanies, or follows, the breaking out of the disease. Already, before it became the doctrine of our schools, had I pointed out the changes which are found in the alimentary canal after death; I shall therefore pass on to what is most important in reference to the treatment.

TREATMENT. — This form of inflammation may depend upon a cause which is either external or internal; most commonly it is the former, but complicated with internal symptoms. If a contused or lacerated wound be made in a person otherwise healthy, and who has no affection of the *primæ viæ*, it is very uncommon to see diffused phlegmon produced, or, at all events, it is easily combated; but, on the contrary, if gastric symptoms precede or follow the accident, symptoms of this kind of phlegmon come on too often without our being able to repress them. If a wound without internal complication give rise to it, though it be contused or lacerated, it must have been irritated by exposure, by violence, or by the friction of the clothes — in short, it must have been *envenomed* in some way or other. In the treatment, then, everything calculated to cause irritation is to be sedulously avoided. If the wound appears to be becoming inflamed — if there be any engorgement of its edges — any tumefaction about it, leeches must be applied; and if the patient be robust, one or two general bleedings are required. It is often useful to precede the application of leeches by general bleeding; if the order be reversed, the leeches, in place of unloading the part, frequently cause an increased flow of blood to it and thus augment the evil.

Bleeding, general and local, in diffuse phlegmon, ought to be accompanied by general, or at all events local bathing. These must be of an emollient kind, such as poultices; or still better, cold, demulcent, and sedative applications to the part. If the cellular inflammation has commenced, the baths, leeches, cataplasms, sedatives, &c. must be again had recourse to; and this antiphlogistic treatment is that which is best adapted to the first stage, or onset of the disease. But if the part be tense — if the inflammation appears dependent upon strangulation of the parts, simple or crucial incisions must be practised without delay; and local inflammation is often thus arrested, and its spreading prevented. Rigorous diet and diluents are also indicated. There is, however, a third expedient which I have been in the habit of using — namely, a large blister to the wound and skin adjoining it. The irritation which it produces, and the suppuration, sometimes prevent the development of the diffuse phlegmon.

But if, before or after its appearance, there be gastric disturbance — if the tongue, without being red at the point and edges, is covered at the base with a yellowish coating — if there be loss of appetite, nausea, with little or no tenderness at the epigastrium, one, or even two emetics, may be advantageous; and gentle purgatives, if the intestinal canal is itself affected, — by which the course of the phlegmon is either suspended, or rendered less troublesome. It is a truth, said M. Dupuytren, of which you may be well assured, that emetics and purgatives, formerly too much employed, are now fallen into too great neglect.*

If the phlegmon be fully developed — if, after a contused or lacerated wound, swelling of the parts comes on — if the cellular membrane adjoining be already œdematous, one or two small bleedings may still be of service: I say *small*, for by large abstractions of blood we run the risk of reducing the patient to an unpleasant state of depression. The remedies above-mentioned are to be assiduously put in force; the parts to be freed by incisions, and maintained in an elevated — very elevated — position, to obviate the congestion as much as possible; and the cold sedatives are to be systematically used. As to the cataplasms, so much used at other hospitals, I regard them as often injurious, by keeping up the local discharge. If the symptoms continue, or increase, I cannot venture to recommend blisters, having seen results so different from them, that I fear to apply them. Sometimes they produce a speedy resolution; but at others, though rarely it is true, they have evidently been the cause of sloughing. I am indeed the more anxious to insist on this point, because in various theses and other works, the success I have obtained has been much exaggerated. It is not in phlegmon alone, but in almost all cases of erysipelas, that I recommend these remedies, and in fact, use them with great advantage. But if they be sometimes hurtful in diffuse phlegmon, still more frequently they exert no influence of any kind over it. About the fourth or fifth day the cellular tissue is almost always *struck* with suppuration. Ought, then, the pus to be left in these little cells, or ought we to hasten to set it free by incisions? Such incisions sometimes diminish the inflammation and suppuration which follows it; but, on the other hand, they often increase them. It is necessary, then, at this stage also of the malady, to insist upon the application of leeches and refrigerants. But if the suppuration be definitively established, hesitate no longer; cut freely into those parts whose dependent situation renders them liable to become receivers of the pus; renew the dressings frequently, and take care each time that you do so, to remove all the pus with your sponges.

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* This remark holds good in England also, with respect to emetics; but not, we think, with respect to purgatives. — Translator.

If, notwithstanding all your efforts, the skin perishes for want of nourishment, it is then above all that we must endeavor to support the strength of our patient, for it is then especially that adynamic symptoms are most apt to appear. If you cannot prevent them, meet the first symptoms with unirritating tonics, and those which follow with gentle antispasmodics. Spirituous preparations, and even wines, are hurtful; substitute for them an aqueous infusion of cinchona, and apply the bark itself externally to the parts.* It is at this time that the state of the cellular membrane comes on, which is designated by the expression, 'struck with suppuration' *(frappé de suppuration.)* Sometimes enormous portions of the skin are detached; assist their removal, but carefully avoid any forcible pulling, and spare the attachments which remain between the skin and the subjacent parts.

These bands consist, as has been said, of vessels and nerves; and their laceration gives pain, or even causes hæmorrhage, neither of which the patient can bear without injury. A new treatment now commences; it is here that the art of *dressing* becomes of importance. Wherever the pus collects, it must be freed by incisions, and evacuated by gentle compression, while the vitality of the skin must be stimulated by the application of cinchona, or spirituous lotions. By the combined efforts of nature and art, the skin in successful cases is seen to become, as it were glued to the subjacent parts again, and we may then know that the danger is on the decline; and everything is to be done to facilitate the cicatrization of the denuded parts. Sometimes the inflammation runs too high for this process, and then leeches and low diet must be again had recourse to. The exuberant granulations are to be kept down with nitrate of silver; and a solution of this is often very serviceable at this time, the strength being four, five, or six grains to the ounce.

The following is the plan of dressing which ought to be adopted: — The edges, and a very small portion of the surface of the wound, are to be covered with little slips of bandage spread with cerate. In this way the laceration of the incipient portions of cicatrix is prevented when the dressings are again removed. The rest of the surface of the wound must be covered with compresses of fine soft linen, spread with cerate, and pierced with a number of holes, in the manner I have been long accustomed to adopt with respect to burns. The holes allow the matter to escape, which is thus prevented from remaining in contact with the wound; besides which, the great advantage is obtained of being able to remove all the dressings in one mass, and with the greatest ease.

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* We remember to have seen wounds in the state here described, in French soldiers wounded at Waterloo, dressed with poultices made of powdered bark and water. Although tried extensively, no very conspicuous benefit resulted. — Translator.

During the whole period of treatment, the greatest attention is required to the diet of the patient, and to prevent him from the least exposure to cold or damp. I have opened a number of the bodies (said M. Dupuytren) of those who have sunk under this disease, and I have observed, that of those who die towards the end of this affection the phlegmon has seemed less the cause of death than some internal inflammation resulting from some imprudence. Pleurisy, pneumonia, and hepatic abscess, were the most common, and these followed exposure of the face, chest, or limbs, to cold. If the phlegmon be situated on the lower extremities, the patient must not be allowed to get up and walk: these movements give rise to determinations of blood, and this may prove the immediate cause of a return of the phlegmon, or erysipelas, scarcely less troublesome. Even when the cicatrix is completely formed, the degree of motion permitted ought to be very limited. Large cicatrices are apt to be lacerated, and this occurs in a singular manner: a little phlyctena filled with pus opens at one point, and leaves a greyish ulcer, like what we see in syphilis: the ulceration extends rapidly, and makes such progress that in twentyfour hours, more or less, the cicatrix is entirely destroyed. It is true that it is renewed with much less difficulty than before, and this accident is not always disadvantageous to the patient, for the primary cicatrix is usually very weak, and easily torn; but this weakness and proneness to laceration diminish every time it is reproduced, and sometimes it only acquires sufficient solidity after undergoing this process three or four times. It is then only that the patient can be regarded as completely out of danger. —*Dupuytren's Lecture.*

MEDICAL GALVANISM.

M. Palabrat has been engaged for sometime past in endeavors to discover the most convenient method of introducing remedial substances into any part of the body, by means of a galvanic current.

That this can be effected is easily shown by employing such chemical agents as exert a visible and easily obvious re-action upon each other; thus, if we lay a compress well wetted with the hydriodate of potass upon one arm, and upon the other a solution of starch, a fine violet color is immediately manifested upon establishing the circuit; if iodine be used, instead of the hydriodate, it is speedily found deposited upon the starch. It may be said that the substance which is thus invisibly transmitted from one part of the body to another, follows the surface of the skin, and is not conveyed directly through the interjacent textures, which are the moist conductors and firm part of the galvanic arc. M. Palabrat is of a different opinion, and rests it on some experiments, in which he not only well dried the skin of the arms, but covered a part of it with a gum-lac varnish; and yet there was not any interruption to the galvanic phenomena. By proper management, the medicinal substance which we wish to be transmitted, may be caused either to remain in the body of the patient or to be withdrawn from it. If we desire the former, it will be necessary to employ acupuncturation at the same time.

M. Palabrat assures us that he has met with very satisfactory success in the treatment of some cases which had resisted all ordinary remedies; he mentions particularly a case of enormous sarcocele, and one of obstinate quartan fever. In the former, iodine was passed through the tumor; in the latter, quinine was introduced into the system.

The memoir was intrusted to MM. Magendie, Becquerel, and Savart, who are to report upon it. — *Med. Chir. Rev.*

MORTALITY OF THE LATE ATTACK OF THE CHOLERA IN PARIS.

It appears that the whole number of individuals seized up to the 21st Oct. was 328, of whom 186 were men, 142 women; but the mortality has been much greater among the latter. Of the 186 men, 72 died; while 73 women out of the 142 fell victims to the disorder; that is to say, the mortality of the males was 38, while that of the females was 51, per cent. — *Med. Gaz.*

THE LATE RICE-IBLE PROCEEDINGS OF THE BOLT-COURT SOCIETY.

If the shade of Fothergill could have been present at the exhibitions which have been got up at the London Medical Society during the last four evenings of its meetings, it must have blushed to witness such a perversion of those premises which might have been the patrimony of some part of his family. You are probably aware that the Society has had a series of entertainments, by Dr Tytler, in which he has shown them that rice has been the principal actor on the various stages of the world, of the great drama of cholera. The Doctor proved that it was not necessary for the London Medical Society to be supplied with *sound* reasoning, fair deductions, and logical conclusions; on the contrary, the grossest assumptions, the most barefaced statements, and the most disgusting egotism, were sufficient to command its attention for four nights, and to obtain for him *an almost unanimous vote of thanks.* The Doctor first began by stating, that a deteriorated rice grew in the East, in the year previous to the breaking out of the cholera at Jessore; that the eating of this rice produced cholera there; that its exportation into various parts propagated the disease; and that wherever the cholera prevailed, he had found this diseased rice to have been carried. It was in vain to attempt to stem this torrent of absurdity by asking how this diseased rice was delayed reaching our shores until 1832, when the cholera first appeared in England? — how the cholera should appear in the highlands of Scotland, where the inhabitants live on oat cakes, and do not know, and never saw, rice? or how it should appear in the huts of the Irish, who eat potatoes, and cannot buy rice? — how an infant at the breast, who never ate food of any kind, should be attacked with cholera? or how the English could be proved to have eaten this *red-rice*, specimens of which the Doctor exhibited to the Society, and which was so different from the rice in common use in this country, that few of our cooks could be persuaded that it was rice, much less to have put it into their puddings? All these difficulties were got over by the following assumptions: — That cholera had prevailed in this country for many years unnoticed, and unknown to medical men; that he had seen an highlander who had lived on rice from his infancy; that a cargo of rice had entered the port of Liverpool, which must have been intended for Ireland; that the mothers of infants at the breast ate rice, and so conveyed it to the bodies of their offspring; that the red rice was bought at 1½d. per pound, submitted to the *expensive* process of bleaching; that it was then ground, mixed with the flour, and made into bread; and this latter was maintained in the face of the fact, that the *very best* wheat flour could be bought at 1¾d. per pound, ready to be made into bread without requiring the process of bleaching or grinding. Letters and documents were read, proving that at Bilston and other places where cholera prevailed most extensively, rice was scarcely or not at all used as an article of food. 'No matter,' said Dr Tytler; 'if rice was used at all, it was sufficient to produce cholera;' the quantity had nothing to do with it. One gentleman stated that he had eaten a tablespoonful of this damaged rice, as an experiment without any ill effects. 'Oh,' said the Doctor, 'it would require a pound to produce cholera;' thus brow-beating the Society by these contrary assertions. A fact was mentioned of a lady who was in the habit of fattening fowls on this damaged rice: 'True,' said the Doctor; 'a diet that might agree with animals might be poison to man:' and this was said in the face of statements which he had previously made, of its producing cholera in goats, and mortification of their genitals, and sloughing of the beaks, and mortification of the heads of fowls. Another fact was stated by a gentleman, that in some establishment where the cholera had prevailed dreadfully, very little rice had been used, and that of the very best quality, attested by the person who purchased it, and the price given; in answer to which the Doctor stated, that bad rice was not known by its price or by its looks, but by its effects; it was sufficient for him to know, that if cholera prevailed, bad rice *must* have been eaten. Another gentleman mentioned the fact of a child laboring under the choleric diarrhœa, and a decoction of rice having been ordered for it as a remedy, and the bowel complaint relieved. The Doctor, who had misunderstood the matter, said, 'to be sure,' it was what he maintained, that rice produced cholera; but, upon being told that he had mistaken the communication, for that it stopped the complaint, 'to be sure,' he said, the rice having been all carried out of the body, the bowels stopped just *as he* was more successful than others in this disease, by giving purgatives.

One gentleman thought the subject worthy of *deeper consideration*, and that we ought to wait for a few years of cholera experience before we decided this matter. Whether for the benefit of succeeding ages he might wish to have a few thousands more of the present race sacrificed, to enable him to come to his long drawn conclusions, I do not know; but I think if he requires so much time to make up his mind to a plain fact like this, it is a pity but that he had lived in the time of the antediluvians; he might then, in the course of some few centuries, have arrived at some few conclusions in medical knowledge.

I think, sir, I need not venture further in detailing the different acts of the representation of this mono-maniacal farce. That the London Medical Society has suffered a disgrace, in tacitly acknowledging the value of such communications, I think is evident to all. As to Dr Tytler, he is to be pitied: he has evidently been laboring under a delusion for years, and with his prepossessions, who can wonder at the zeal which he has displayed in endeavoring to propagate his rice doctrine? With the melancholy impression on his mind, that rice could occasion cholera and yellow fever, which he stated to have been produced at Cadiz by it, and all other 'ills which flesh is heir to;' combining this its means of destroying the human race, with its effects as detailed by him of producing sloughing of the genitals, thus striking at the very roots of reproduction, he must have been horror struck with the notion, that if mankind would so pertinaciously adhere to the eating of rice, that he himself was destined to realize the fiction, and become the hero of the poem of the *Last Man.* — *Med. Gazette.*

USE OF STYRAX IN AFFECTIONS OF THE MUCOUS MEMBRANE.

Dr Peck of Port Gibson says, — I have used the styrax, obtained from the Liquidambar styraciflua, and find it a mild, pleasant and useful remedy in recent cases of simple gonorrhœa, without inflammatory reaction, and with only an unnatural, increased secretion. I have also used it with benefit in the degenerated stage called gleet, as also in leucorrhœa. I have reason to believe that it may be found equally beneficial in certain affections of the mucous membrane of the alimentary canal, and the lungs. I am indifferent whether it be taken in the dry resinous state, or in the form of the recent *liquid amber*, as it gushes odorous from the woodman's incision, and made into pills with flour, or pulverized liquorice. Of the latter, which I consider preferable, I give two pills, three times daily, each containing from six to eight grains.

To say that this substance has properties, according to my experience, equal to the copaiva, without its nausea, or to the other common remedies, is but saying the least in its favor. It imparts an odor to the urine and alvine excretions similar to that produced by the use of asparagus. — *Transylvania Jour.*

CALOMEL IN CHOLERA.

REMARKS BY DR DOWLER, OF WHEELING, VIRGINIA.

It often happens, in medical matters, that analogical evidence alone, must in the first instance, guide us, in the starless night of uncertainty; in our explorations, we proceed from the known, to the unknown. For nearly ten years, in a practice extending to the banks of the Ohio, I have met with numerous cases of congestive fever characterised by imperfect reaction; by morbid alteration in the balance, or equilibrium of the circulation; by internal accumulations of blood, oppressing the vital organs; by the coolness of the skin and extremities; and by watery diarrhœa. Now, this state of the fever does not resemble cholera in the rapidity of its course, but with this exception, the analogy is very striking: and the assumption immediately arises, that the remedial agent which cures the former, will cure the latter disease. Presumptive proof to the same effect may be drawn from the treatment of Dysentery, Cholera Infantum and Cholera Morbus. These analogies, in connection with my personal observations and the testimony of medical men in Cincinnati, Louisville and other places, confirm me in the opinion, that calomel is the only remedy for Cholera. A grain or two of calomel, *pro re nata,* is, doubtless, the proper remedy, for the slight disturbance of the bowels, which precedes the wasting discharges. The more copious the discharges, the larger should be the dose of calomel; 60 grains is a small dose in fully developed cholera; I do not say, that ten grains might not chance to cure some persons. I do not say, that the *vis medicatrix naturæ,* or the power of nature, may not occasionally heal the patient.—Some will give up the ghost sooner than give up a theory or opinion,— you might as well attempt to change the current of the Ohio by argumentation, as persuade them to give a patient 800, or even 60 grains of calomel. This prejudice is owing in many instances, to misapprehension of the medical properties of calomel in large doses, *under the modifying power of disease.* The following propositions, though strictly true, are either unknown or unheeded by too many practitioners of great ability. Although a large dose of calomel given to a person in health, or in a very slight indisposition, is, absolutely dangerous, nay, sometimes fatal, yet, as the patient deviates from the standard of health, the danger from a large dose constantly diminishes, in fevers, dysentery, cholera, &c. Calomel, in large doses, in health or slight indisposition, usually produces long continued nausea, vomiting, purging, prostration, &c.; in certain stages of fever, cholera, &c., it removes those very symptoms, tranquillizing the system more certainly than opiates, operating very slowly upon the bowels, producing few, but copious, consistent bilious evacuations, with less prostration than any known remedy. In one state of the system, three grains will salivate; in another state, I have given sixty grains daily, for ten days, to the most delicate woman, with success, and without fear of salivation. I maintain that a medical man, may, by study, observation and experience generally know that peculiar state of the system, in which an increased quantity of calomel will not salivate. Language can convey mathematical truths to the mind; but it is unequal to the explanation of many recondite truths in pathology. Had I time and space, in a paper of this kind, I should attempt an explanation of the state, or of the phenomena of the system, referred to; but all descriptions of disease, like descriptions of countries, of paintings and of persons, unseen by us, are imperfect. Who has ever painted, through the poor medium of *language*, that peculiarly diseased appearance of the countenance, in the advanced stages of cholera?

For that state of the system, in which large doses of calomel are required, unfortunately, we have, in the present state of our knowledge, no substitute. Calomel is unlike every other remedial agent; its salivating property is peculiar; its tendency in large doses, to restrain watery purging, is contrary to that of every other cathartic; its power in unlocking the flood gates of the biliary system, in restoring the healthful secretions of the bowels; in unloading oppressed organs, by an equal distribution of the blood, is as peculiar as it is unquestionable.

It has been said, that in a healthy person, calomel will create and keep up black discharges. All the facts which have fallen under my notice, tell a different story: thus, I have known persons unintentionally to salivate themselves, without the appearance of any vitiated bile. The chief danger from calomel, consists in salivation, over which, medicine has no control whatever. Fortunately, for the practitioner, that stage of Cholera, (in which large doses are necessary,) renders the system *unsusceptible to salivation.* In many diseases, a quarter of a grain of calomel, is an all sufficient dose: in fever, a few grains will often operate several times daily, while at the same time, sixty grains will seldom operate for twentyfour hours. I do not intend to say, that Cholera can in every case, be cured, by calomel, in any quantity, even when properly given, before the approach of collapse. I may be prejudiced in favor of calomel: I may overrate its curative powers; I may find it hereafter to fail altogether; but, of one thing I am certain, that some of the very worst cases (collapsed excepted) were cured, or at least, got well quickly after taking from 60 to 800 grains, in a few hours. Never have I seen medicine, in any disease, produce more direct, speedy and unequivocal relief. A single failure, admitting of a plausible explanation occurred, but not in the town of Wheeling. In collapse, like every other remedy, which I saw tried, it was altogether useless. — It produces a more tranquillizing effect than opium: the patient often falls to sleep, under its new, soothing and controlling impression, by which, the tremendous power of the disease is counteracted or suspended; in a few hours the watery discharges diminish; then change to bile; the blood and heat return to the skin. Hot applications to the body never will bring back the blood and heat to the skin. The moment you withdraw the hot applications, which cannot penetrate far beyond the skin, coolness returns: unload the laboring wheels of life in the central regions, and the blood will return to the superficial parts, by thousands of vessels.

Calomel is not a panacea or specific requiring no skill in its application or dose. Some medicines will not admit of any very considerable increase of the ordinary dose, without danger to the patient, while Aloes, Ipecacuan and some others, may be taken in tenfold doses, without any violent or unusual operation. Of Calomel, the same may be said, when its ordinary effects are controlled by diseased action. Calomel is called a mineral — a poison, as if vegetables were not more poisonous than minerals; for example prussic acid, a vegetable product, kills almost as quickly as lightning. All medicines are poisons, especially to a person in health; they afford him no nourishment; they act upon him as foreign, perturbing bodies, and during their operation produce more or less irritation: a common dose of arsenic is not more poisonous than a common dose of salts, oil or magnesia.

'*Medicines,*' says Linnæus, '*differ from poisons, not in their nature, but their dose,* which is but a paraphrase of the well known aphorism of Pliny, *Ubi virus ibi virtus.*'

Dr Rush observes that all new remedies are forced to pass through a fiery ordeal. Opium and Barks were long the objects of terror, and invective: the Bark was charged with producing diseases and death years after it had been taken, by *lying in the bones.* These medicines were administered by Physicians with all the solemnity of a religious ceremony.'

In reflecting upon the epidemic at Wheeling, the melancholy associations called up by the stormy nights of June, appear in cheerless array; the rain, the lightning, the thunder, the lurid flame of the coal heap, the knocking at the door of the Physician, the hammer of the coffin maker, in connexion with the deaths of the past day and the new victims of the night, produced an impression which time will not soon destroy. — *Transylvania Jour.*

Electricity for the Cure of Warts.

By Albert G. Welch, of Annapolis.

Having had during the past winter, when I attended lectures on chemistry, frequent opportunities of trying experiments with electricity, and having several warts on my hands, to get rid of which I was exceedingly anxious, and having tried repeatedly the efficacy of nitrate of silver, and other caustics without any advantage, I determined to try the efficacy of electricity. I therefore commenced by sending sparks through them, which was repeated for five minutes daily, for five days, when to my great satisfaction, I found that they had entirely disappeared, since which time they have not re-appeared, which they did when removed by the knife, or by caustic.

As there may be others who would like to be clear of such disfiguring excrescences, and as the mode of removing them may not be generally known, if you think it worth publishing, I would be glad if you would insert the same in your journal. *Balt. Med. & Sur. Journ.*

NATURE OF THE BLOOD IN CHOLERA.

FROM REMARKS MADE BY DR WITTSTOCK OF BERLIN, BY DIRECTION OF THE PRUSSIAN GOVERNMENT.

A quantity of blood, weighing 5.012 grains, was drawn with the necessary precautions from the arm of a cholera patient named Geinert; the blood separated immediately into serum and the red clot; and the following method was taken to remove the serum as completely as possible. The blood was placed in a glass, and removed from the action of all external circumstances. On the first day the blood had lost 1.106 parts of its serum, on the second, 489; on the third 235 parts or grains; thus the blood separated into 3182 grains of clot, and 1830 grains of serum, or as 63.5. to 36.5. The serum had an evident alkaline action on turnsol paper, and its specific gravity was 1.0385. 100 grains of this serum when dried perfectly, gave 13.75 of a demi-transparent yellow mass. According to Berzelius, the serum of healthy blood has a specific gravity of 1.027 to 1.029, and forms in weight three-fourths of the whole blood. Healthy serum, whose specific gravity is 1.027 to 1.029, leaves after desiccation 9. 5 parts of solid matter; but the blood of cholera patients, the gravity of which was 1.0385, gave a dry mass of 13.75, hence as the serum of healthy blood is 75 to 100, as Berzelius affirms, cholera blood loses 19 parts in the 100, or 5 pounds of water on the whole mass, estimated at 30 pounds. As it was extremely probable that the clot of choleric blood still contained a good deal of serum, experiments were made to ascertain the relative quantities of blood in healthy and choleric blood. Equal quantities of the two bloods were washed repeatedly in water and then dried; the healthy blood was found to contain 13 to 100 of fibrine, while the cholera blood gave only 6 to the 100 parts. — *Lancet.*

CLOT BEY.

This indefatigable surgeon is in Egypt again. In a letter to the Editor of one of the French medical journals, he gives an interesting account of his proceedings since he reached Alexandria. The Viceroy, his great patron, received him with fresh marks of favor, conferred on him the place of President of the Council of Health, which had fallen vacant during his absence. Clot Bey found the influenza raging in Egypt upon his arrival: from Constantinople, he says, it has been traced to Smyrna; thence to Syria, Alexandria, Cairo, Suez, and the Heggiaz; and he conjectures that it may probably extend from Mecca to Hindostan. Both the influenza and the cholera, he conceives, ought to be reckoned at least as contagious as the plague. This terrible malady (the plague), he informs us, has not appeared in Egypt for the last eight years, and it is doubtful to what its unusual absence is to be attributed; the Nile has been as various and as irregular in its inundations as ever; nor have the climate, or the manners, habits, and customs of the natives undergone any perceptible change. The enlightened Viceroy, with his usual attention to the wants of his people, has ordered civil hospitals to be built at Cairo, and in the meantime has thrown open the new military ones to the sick of both sexes. In a postscript to his letter, Clot Bey gives an account of some capital operations which he performed since his return. One of them was the extirpation of a scrotal tumor, which was complicated with a double hydrocele, and he was enabled to save the genital organs. The cure, he says, is complete. — *Med. Gaz.*

MORBID CONDITION OF THE PLACENTA.

M. Serurrier, of Paris, not long ago attended a lady in a labor which was severe, but ended favorable. Happening to examine the placenta, which he observed was rather voluminous, he found in its centre a scirrhous tumor, about the size of a pigeon's egg, which, upon being opened, displayed a quantity of a purulent liquid. About an inch and a half from the tumor an infinity of little granulations, of an equally scirrhous character, were perceived, and, on being pressed, gave out an oleo-purulent fluid. The labor had taken place at the end of the seventh month, and twins were born — a boy and a girl — both lively and well formed. But the placenta was *unique*. — *Gaz. des Hôp.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I. — REVULSION: ITS LAWS, AND THEIR APPLICATION TO THE CURE OF DISEASE.

THERE is no therapeutic process in more universal and constant employment than that which is known by the name of the revulsive or derivative medication. In nearly every form of disease embraced in the most capacious systems of Nosology, this method of treatment, in some of its modifications, is resorted to. The only now dominant school of medicine — that called the *physiological* — acknowledges, indeed, but three general modes of medication; — the directly debilitant, the revulsive, and the directly stimulant; and of these three the second holds, if not a doubtful, at least a nearly equally divided empire, in point of importance and power, with the first.

But, notwithstanding the so general application of this means to the cure and alleviation of disease, there has been, among writers and practitioners, not only a good deal of obscurity and indefiniteness in regard to the principles of its operation, but also no little contrariety of opinion as to the kinds of disease in which it is indicated, and as to the conditions necessary to its success. The laws of its action being but poorly defined and imperfectly understood, its use has been, necessarily, to a considerable extent, capricious and empirical.

Influenced, probably, by considerations of this kind, the Society of Practical Medicine, in Paris, proposed for one of its prizes, in 1831, the subject embraced in the following terms: '*What are the laws of Revulsion? What are the resources which Therapeutics may derive from Revulsives? What are their advantages and inconveniences — and what are the indications for their employment?*'

The prize was awarded to M. J. C. Sabatin, of Orleans, and it is our intention to embody, in this article, the most important matter contained in his very excellent, philosophical and practical memoir.

Passing over the *Avant-Propos*, and arresting ourselves at the *Préleminaires* only long enough to remark that M. S. although he admits, even at the present day, a difference of meaning in medical language between the terms *revulsion* and *derivation*, — the former being more frequently used to designate the action of stimulants externally applied, and the latter to denote the operation of those used internally, — considers both words expressive of the same phenomenon, and prefers the term *revulsion*; — we shall follow our author in the arrangement adopted in his memoir, analyzing, as fully as our limits will admit and to the best of our ability, its successive divisions and subdivisions. The work consists of two parts. In the first, are discussed the laws of revulsion; and in the second are contained the practical results consisting in the application of these laws to the cure of disease.

Part first. *What are the laws of Revulsion?* Revulsion, defined after its results and its most sensible effects, and not after its nature, is that vital phenomenon in virtue of which a morbid condition or action of any given organ is gradually diminished, or promptly dissipated, under and by the influence of a certain modification which art, and sometimes nature, establishes and continues during a longer or shorter period in one or more other organs, more or less distant from the first, and having, with this latter, relations more or less intimate, naturally existing or accidentally established.

Every revulsion presupposes the existence, in some part of the body, of morbid phenomena.

Nearly every substance or agent, by means of which revulsion may be produced, is primarily and essentially stimulant, and these agents determine, sometimes, a simple physiological excitation, sometimes irritation, and often, in consequence of this, inflammation.

Means, by the aid of which revulsion may be operated. These means are ordinarily applied by art, but not unfrequently they are furnished by nature. They may act primarily either on the external or on the internal parts of the body. The artificial means used for this purpose may be grouped according to their action, and this action is manifested by the following principal modifications, impressed upon the part with which they are put in contact.

1. *Superficial irritation more or less intense and durable.* This is produced by sinapisms; simple friction long continued, or friction with substances more or less stimulant; the moderate action of caloric; local hot baths, simple or medicated; dry cupping, &c.

2. *Irritation more profound, with inflammatory phenomena existing for a longer or shorter time.* This is the effect of the actual cautery; moxa; boiling water; iron heated to the same temperature; certain caustics; the seton, &c.

3. *Irritation or simple excitation, with capillary congestion of variable depth and extent, accompanied with sanguineous emission more or less abundant.* Such are frequently the effects of leech bites and scarifications.

4. *Direct excitation of the sensibility of a part, susceptible of being communicated to other parts, and occasioned by specific agents.* These are electricity and galvanism. The above agents are applied externally; those used internally are the following, with their corresponding effects: —

1. Excitation more or less considerable of the digestive mucous membrane, increasing more or less the activity of its physiological action. Such is the operation of laxatives and mild purgatives.

2. *Irritation and sometimes inflammation of one or several parts of this membrane.* These effects are occasioned by drastics, or by purgatives less energetic but too freely administered or too frequently repeated. Certain substances, as emetics, confine their action mostly to the stomach; others, such as irritating enemata, act especially on the rectum.

3. *Irritation, or a special inflammatory action of other mucous membranes, beside that of the digestive canal re-establishing a suppressed morbid secretion.* This result is produced by sounds, by simple or medicated bougies introduced into the urethra, and by certain liquids injected into this canal, into the vagina, and into the auditory meatus.

4. *Excitation, or irritation, or inflammation even, developing itself in one or many organs, or on one or many points of the same organ, following the absorption of certain substances from some surface of the body.* In these cases sometimes the organs affected are more susceptible of the influence of the exciting substances than the absorbing surfaces themselves. This is seen in the operation of mercury, certain diffusible stimulants, &c. At other times the substance used operates upon the absorbing surface itself, as when tartarized antimony is applied to the skin.

The means by which nature, independent of art, operates revulsion, are certain acute affections occurring during the existence of another malady. These new affections generally consist of an irritation or inflammation, more or less severe, attacking a part or organ more or less removed from that primarily affected.

In general, revulsion thus operated by nature is more prompt and more efficacious than that which is produced by art; but it is also much more frequently attended with danger, from which, indeed, it is hardly ever entirely free. It is necessary to distinguish carefully between *revulsion*, properly so called, — that is, the disappearance of morbid phenomena from one part or organ occasioned by the occurrence of a new disease in another part or organ, — and *retrocession* or *repercussion*. In the last case the disappearance of the original affection is primary; — it is the occasion and cause of the development of the new disease, while in the first case it is only the effect. Very frequently in pathology the supervention of a new train of morbid phenomena is attributed to the retrocession of the previously existing disease, when, in fact, they depend upon some other cause, and occasion the disappearance of the primary affection through the medium of revulsion.

Acute diseases, considered in this relation, seem to act in one of the two following ways: — a new and violent irritation, suddenly excited in one organ, dissipates an irritation less violent or more slowly developed previously existing in another organ; or the general sensibility being increased by the excitement of the new disease, the progress of the first towards a favorable termination is accelerated.

These natural revulsions may be effected in the following different manners: —

1. *From one part of the cutaneous surface to another part.* Erysipelas of the face may occasion the disappearance of

vesicular, pustular and other eruptions, existing in other regions; it may hasten the resolution of certain tubercles, or the cicatrization of certain ulcers, situated at a distance more or less removed from the erysipelas.

2. *From the skin to the mucous membranes, and vice versa.* A vesicular, pustular or other eruption, occasioning the cessation of a diarrhœa, a bronchitis or a catarrh; a gastritis or an enteritis, producing the same effect on a cutaneous eruption.

3. *From the skin to other organs.* Erysipelas sometimes promptly resolves certain glandular engorgements; promotes the purulent softening or the resolution of indolent, scrofulous tumors, &c. A full eruption on the skin may remove a pleuritis or a pneumonitis, and these latter diseases may also occasion the removal of cutaneous inflammation.

4. *From one portion of mucous membrane to another portion.* The occurrence of diarrhœa is, in certain cases, accompanied with the diminution or cessation of a catarrh, and gonorrheal opthalmia not unfrequently removes inflammation of the urethra.

5. *From the mucous membrane to other organs.* Gastro-enteritis may replace pneumonitis, and diarrhœa may dissipate edema of the lungs or hydro-thorax. Acute catarrh of the ear may remove rheumatismal cephalalgy.

6. *Between other organs than the skin and mucous membranes.* Inflammation of the mammæ may, by revulsion, cure metritis; and that of the parotid gland may dissipate inflammatory engorgement of the testis.

Conditions necessary in order that the local application of revulsive agents may give rise to immediate sensible local effects. The organic sensibility of a part may be so modified as to be no longer susceptible of the usual action of revulsive substances. The nature of this modification we do not understand. It sometimes happens that a common vesicating plaster will produce its full effects on a part which has lost its animal sensibility, and over which the power of voluntary motion has been destroyed, while the same substance will be wholly inert when applied to a part possessing unimpaired the properties of which the first was destitute. This insensibility to the ordinary actions of stimulating substances, when one or several organs resist the influence of the most energetic agents, would seem to indicate absolute insensibility and inertia, if it did not frequently happen, that, after a longer or shorter period, phenomena are developed showing an excess even of this property.

A patient, suffering with intense neuralgia of the spermatic cord and testicle, had, on account of the supervention of violent nervous symptoms, an iron, heated to the temperature of boiling water, applied to the skin of the perineum, for the purpose of creating an absorbing surface to which morphine might be applied. The white and soft eschar ordinarily resulting from this operation was not produced, and the part remained in the same condition as before the application of the heated iron.

A physician was attacked with articular rheumatism, and in consequence of a sudden metastasis to the diaphragm, accompanied with urgent symptoms of suffocation, the most powerful revulsives were applied to the parts primarily affected, without the slightest effect being produced on these parts. Strong frictions around the joints and along the lower extremeties, with an active ammoniacal preparation, simply reddened the skin without detaching the epidermis.

These observations have reference particularly to external revulsives, because the action of these comes directly under the cognizance of the senses; but there is no doubt that the same thing happens in the case of internal revulsions. Do we not see, under certain circumstances, the most energetic purgatives remain in the digestive canal a long time without occasioning the least degree of irritation? It should, however, be remembered that internal revulsion is frequently produced without any very manifest symptoms of internal irritation, and that this revulsive irritation should never, in these cases, be carried so far as to result in inflammation.

If the organic sensibility is very much diminished or enfeebled, revulsive substances will not produce their accustomed effects; and, on the other hand, when this sensibility is very much exalted they will not excite any appreciable or sensible action within the time during which they ordinarily manifest their action.

The local action, then, of a revulsive agent will be energetic and prompt in proportion as the part to which it is applied approaches the standard of health.

Phenomena which are developed in consequence of the local action of revulsives. These may be divided into two classes; the first, consisting of the modifications wrought in the part to which the revulsive agent is applied; the second, consisting of the modifications wrought in the diseased organ constituting its return to health, and depending on the existence and operation of the first.

The part on which a revulsive agent has determined an increase of sensibility becomes in its turn a centre, toward which the fluids are called with an energy in direct proportion to the degree of excitation. These new phenomena will vary according to the nature and activity of the cause which produces them. Each stimulating substance, used as a revulsive, produces local effects peculiar to itself, thus rendering its application under certain circumstances and in given cases preferable to that of the others. The local phenomena resulting from their application may be grouped, in relation to their intensity, under the three divisions of *physiological excitation*, *irritation* and *inflammation*, the characteristics of which different states are sufficiently known.

Now, in order that the foregoing modifications may transmit an influence to the organ primarily affected, the tendency of which influence shall be to restore this organ to a healthy condition, certain relations must exist or must be established between the organ to be acted upon and the part to which the revulsive substance is applied. These relations depend upon the presence and exercise of the *sympathies*, in regard to the nature and causes of which, there has been so much vague hypothesis and vain speculation. Let us next consider this vital phenomenon in its intimate relation to the revulsive process.

Sympathy, as it is here conceived of, may be defined to be that disposition naturally or accidentally established between two or many organs, by virtue of which one or each of them is rendered susceptible of being influenced by a modification more or less considerable wrought in either of the others. Every sympathetic action or effect is the manifestation of this disposition. Various attempts have at different times been made to explain the nature and *modus operandi* of sympathies. Admitting that sensibility is the exclusive property of the nervous tissue; and that this tissue is the only agent of the reciprocal transmission of organic influences, — when we consider the universal diffusion through the body of the nervous apparatus, and the intimate connexion existing between the animal and organic nervous systems, there is no difficulty in comprehending even the most widely separated of these mutual actions. It is not necessary in order that one organ may be acted upon by another that we should be able to trace with the scalpel any direct nervous communication between the two. The influence, in the production of this phenomenon, of similarity of organization and of physiological correlation of functions has not been sufficiently considered.

The point of departure or origin of sympathetic irradiation in the process of revulsion is the part or organ on which the revulsive substance exerts its action, and the term or goal of this irradiation may exist in another organ identical in structure and function with the first, analogous to it, or widely differing from it. The most numerous and intimate sympathies are those existing between identical organs, then those between analogous organs, while those between organs not at all resembling each other are more rare but not less remarkable. A familiar instance of the first kind of sympathy is seen in the readiness with which inflammation of one eye is transmitted to the other. The relations between the skin and the digestive mucous membrane furnish an example of the second, and the third is illustrated by those existing between the larynx and the testes, between the uterus and the mammæ, between the iris and retina on the one part, and the gastro-intestinal mucous membrane on the other.

The effects of the sympathetic irradiation, originating in revulsive excitation and arrived at the diseased organ, are diametrically opposite to those resulting from physiological sympathies. The principal characteristic of these latter is to produce in the organ which is the term of their irradiation a modification *similar* or *analogous* to that existing in the organ whence they originated. Thus, excitation of the nipple provokes that of the clitoris; an excited play of sensibility in the retina, determines a corresponding action in the iris, &c. On the contrary, in the sympathies created by the revulsive process, the diseased organ, — that which is the term of the irradiation, — undergoes changes of a character opposite to the modifications by whose action they are produced. Thus, the artificial irritation, instead of aggravating and increasing the morbid irritation previously existing, mitigates and diminishes it.

In order to the production of this effect, certain conditions are necessary, and they may be reduced to the two following general principles; first, that the revulsive irritation should acquire rapidly or by degrees an amount or intensity of action capable of arresting or gradually diminishing the morbid phenomena, and consequently that the former should control the latter: secondly, that the diseased organ should be in a condition capable of returning to its primitive mode of sensibility — to its normal state: if it returns but partially, the process of revulsion is incomplete. Hence it follows that if the sensibility of an organ is very much exalted and its morbid phenomena very energetic and violent, the action excited by revulsive substances may be wholly efficacious, and for a still stronger reason will this be the case if the organ has already undergone a deep and radical change of structure. It is thus easy to see that revulsion cannot always be obtained by the use of revulsives. In accordance with the first principle just laid down, experience, preceding theory, has long since decided that in the treatment of most acute diseases, revulsives are not allowable till after the reduction of the high excitement by abstraction of blood or by other means.

Here, the question naturally occurs, whether, in those cases where revulsive substances fail to produce their primary local effect within the period of their usual operation, these substances have actually remained on the part to which they are applied without effecting any change in this part. Let us appeal to facts. In the case of the patient with neuralgia of the spermatic cord and testis, already cited, after the violent nervous symptoms had subsided, the ordinary effects of the cauterization became manifest. In the other case, of the physician suffering with rheumatism, after the expiration of sixty hours, the surfaces, to which the sinapisms had been applied, assumed very suddenly the appearance of violent inflammation. It is sufficiently evident, then, that in this class of cases the revulsive substance has not remained on the part inoperative and inert, and that, notwithstanding the absence of any sensible local effect, an effect has been produced. In some instances that condition of an organ or of the system which prevented the manifestation of the ordinary sensible results of the revulsive irritation, may still have been removed by this irritation, acting as a revulsive; in others it may have been removed by different causes.

Thus, the effects of the revulsive sympathy will vary according to the nature of the revulsive substance, the intensity and duration of its action, the condition of the diseased organ, &c. Revulsion is generally sudden when effected by nature; when the result of art, it is usually more gradual, but attended with fewer dangers. Its activity is generally, but not always, in proportion to the extent and intensity of the revulsive irritation. It is frequently the case that this irritation is most beneficial and efficient when it is moderate in degree but long continued. This is especially true in regard to its internal application.

Phenomena and modifications excited, through the medium of sympathy, in the diseased organ, determining its return to a healthy state. Supposing the revulsive action in operation, the next point in the process to be considered is the effect produced on the diseased organ. This differs according to the nature and period of the malady.

If there is simple sanguineous congestion just commencing, it ceases more or less promptly with the removal of its determining cause, and the afflux of fluids is suspended the more readily by the excitation created in another part.

If there is irritation or inflammation even with tendency to disorganization of the vascular parietes, occasioned by their extreme distention; at first, the afflux of fluids ceases with the cessation of the excitement which had kept up this afflux. The capillaries then resume by degrees their contractility, and return gradually to their normal condition. In the case of morbid actions which are more slowly developed, and which are chronic in their march, the revulsive influence is also more slowly exerted, and less certainly felt. The different modifications thus wrought in the affected organs may be included in the term *resolution.*

But if the affected organ has already undergone changes in its nutrition, its secretions or its exhalations, it is by a different mechanism that its return to healthy action is effected. In the first place, the morbid action, whatever may be its kind, is suspended by the revulsive influence. There is also, by this influence, a new mode of activity impressed upon the capillary and nutritive vessels of the organ, and through the agency of this modified sensibility is established a process of *absorption,* by which the morbid products, of whatever character, whether solid or fluid, are taken up and removed.

Thus *resolution* and *absorption* are the results of the different modifications effected by the revulsive action in the morbid tissues, and constituting their restoration to health. Both these results, but more especially the latter, are very much facilitated and accelerated through the influence of new secretions and exhalations established on the part to which the revulsive substance is applied. Furthermore, experience teaches that a morbid secretion or exhalation may be most successfully combated by the establishment of a new secretion or exhalation, resembling as nearly as possible the morbid one. Accumulations of serosity are most likely to be removed by the use of such revulsive substances as determine a superabundant exhalation or secretion of serous fluid. So, on the other hand, the establishment of suppuration is most efficacious in the arrest or diminution of previously existing purulent secretions.

There is still another and a peculiar mode of producing revulsion, and that is by *general blood-letting*. It is only in certain cases, and not generally, that this operation can be called revulsive, though at different times and by different writers it has been considered universally and exclusively so. If there is always revulsion when a diseased organ is restored to its normal condition through the agency of a particular change wrought in another organ, whenever this change is effected by general blood-letting the operation is a revulsive one. Let us endeavor to specify these cases.

When a physiological or an habitual afflux of fluids toward any part or organ is, by any cause whatever, suddenly suppressed, it very frequently happens that a morbid afflux is, all at once, and in consequence of this suppression, determined in some other organ. A sudden diminution of the mass of blood, by allaying the general excitement and removing the morbid congestion, causes the reappearance of the suppressed afflux. Exposure to cold or some other cause suddenly arrests the menstrual discharge, and there immediately follows cerebral congestion. A copious abstraction of blood removes the secondary congestion and the menses reappear. An habitual periodical epistaxis is suppressed, and there are threatenings of cerebral inflammation. The jugular vein is opened, the symptoms are removed, and the epistaxis is reëstablished. In this peculiar form of revulsion the return of the organ secondarily affected to its healthy state is necessary in order that the suppressed afflux should be restored. The revulsive action of blood-letting may be said to be *retrograde*, as the diseased organ returns *first* to its normal condition.

From what has now been said it follows, that revulsion is not an *action*, but a *result*; it is the *effect* of a therapeutic operation. In conformity with this idea, and with the preceding principles, the following definition is more rigorously accurate than that given in the first part of this article. Revulsion is the result of a complex, therapeutic operation, to the production of which many mutually dependent phenomena concur; the point of origin of which phenomena is either a particular modification impressed upon one organ causing the cessation in another organ of previously existing morbid actions; or a direct modification primarily impressed on the general sensibility, the result of which is to suspend in one organ morbid excitation, which had been sympathetically developed by functional disturbance of another organ, the natural equilibrium of sensibility and of functions between the two, being thus re-established.

The therapeutics of revulsion will constitute the subject of another article in the next No. of the Magazine.

ART. II. — HUNTERIAN REMINISCENSES.

Being the Substance of a Course of Lectures on the Principles and Practice of Surgery, delivered by the late MR JOHN HUNTER, *in the year* 1785; *taken in short hand, and afterwards fairly transcribed, by the late* MR JAMES PARKINSON, Author of 'Organic Remains of a Former World.' *Edited by his Son,* J. W. K. PARKINSON, M. R. C. S. L., *by whom are appended Illustrative Notes.* London, 1833. 4to. pp. 176.

[From the Medical Quarterly Review.]

VOLUMES have been written on the genius of Hunter, orations have been spoken in his praise; but one glance round the gallery of his museum is worth them all. That was indeed a mind of no ordinary vigor and extent which could thus shadow forth, in one vast series, the universe of life. The imaginative grandeur of the conception was worthy of Milton; the labor of the work could have been surmounted by few men but John Hunter. Feeling towards his memory, as all genuine lovers of science must feel, we have derived very high gratification from the perusal of these Reminiscences. It is no small pleasure to be able to place him as it were in his own person before us, delivering to his pupils thosei nvaluable precepts which have since enabled many of them to labor so successfully in the same ample field: nor will we deny that even the peculiar and ungraceful style which pervades these, in common with all his writings, however objectionable in itself, still exerts a pleasing influence on our mind, as bearing the strong impress of his individual hand, and as the medium through which, troubled though it be, the most valuable doctrines of modern surgery have been transmitted to us. In some parts of these lectures, however, the language is much pleasanter, from being more familiar, than that which Mr Hunter generally used; so that there is reason to regret that he has not always adopted a more colloquial manner of expression; for it is not to be denied that many have flung aside his works in disgust at the repulsiveness of their style.

Independently of its interest as a *relic*, this volume affords a valuable compendium of Hunter's principal doctrines, both in physiology and pathology; the rather, that several of his opinions are here expressed more simply and intelligibly than in his other works. The following passage, for example, is worthy of particular attention, as completely vindicating its author from a charge to which, it must be confessed, his own extraordinary phraseology has very frequently exposed him,—the charge of absurdity in believing, like Van Helmont and Stahl, that the vital principle was a distinct being, and actually endowed with consciousness and intelligence.[*] We here find, however, that, so far from investing it with these imaginary attributes, he does not even assert its independent existence, but admits that it may depend on some arrangement of the particles of living matter, different from that which obtains in common matter. Now he tells us distinctly, in another place, (page 11,) that he regards the mind, and sensation, as the result of an arrangement in the brain and nerves, different from that which produces life: he cannot therefore mean to ascribe consciousness and intelligence, which imply mind and sensation, to the principle of simple life. His opinions respecting the mind we do not here intend to enter into. They evince, in common, we are sorry to add, with those of many other physiologists, a very imperfect acquaintance with the subject; which is the more to be lamented, since the force and ingenuity of some of his ideas on such themes show how powerful a metaphysician he would have made, had his mind been properly trained to this kind of thinking. The basis, then, of Hunter's doctrine of vitality, is simply that living matter is subject to laws which do not influence common matter; an opinion which, we must say, in the midst of acknowledged uncertainty, appears to us to have common sense on its side.

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[*] Van Helmont believed that plants and minerals, as well as animals, had their intelligent living principle. There exists in all of them, it seems, a certain *aura*. 'Quæ aura, licet in aliquibus luculentior sit: in vegetabilibus tamen succi specie comprimitur, ut et in metallis densissima homogeneitate inspissatur: singulis tamen hoc donum obtigit, quod Archeus vocatur, generationum et seminum fœcunditatem continens, tanquam causa efficiens interna. Ille inquam faber, generati imaginem habet, ad cujus initium, destinationes rerum agendarum componit Constat Archeus verò ex connexione vitalis auræ, velut materiæ, cum imagine seminali, quæ est interior nucleus spiritualis, fœcunditatem seminis continens; est autem semen visibile hujus tantum siliqua. Imago hæc Archei, ex predecessoris idea defluens, vel eandem è condo externorum accipiens, non est demortuum quoddam simulacrum, sed plena insignitum scientia, potestatibusque necessariis, rerum, in sua destinatione agendarum ornatum; adeoque est vitæ, et sensationis primarium organum.' (*Ortus Medicinæ*, ed. Amstelodami, 1652, p. 33.)

Those of our readers who are fond of the by-paths of medical literature, will derive much amusement from the writings of this ingenious, but fanatical and conceited old Belgian.

'*Life.* Animal matter, then, is the result of a peculiar combination of other matter; and this combination or modification of common matter may be endowed with the living principle or not, the living principle not depending on that modification of matter which renders it animal matter; for this modification, which is peculiar to animal matter, and which constitutes it, may remain when the living principle is gone. Life is, therefore, something superadded to matter thus modified; or it is such an arrangement of the most minute particles of this modification as life may arise out of it, which arrangement may be the principle of life; and, if this arrangement be destroyed, the principle of life is also destroyed, and the part becomes dead animal matter; and, though it has suffered this alteration in its arrangement, and the loss of this principle, yet its modification, as far as our senses can discover, remains the same. This idea of life is hard to be illustrated; but magnetism perhaps affords the best illustration of it, for iron not magnetized may be considered as animal matter not endowed with life, and, when possessing the magnetic power, may be compared to animal matter possessing the vital principle: now, in neither of these can we discover by our senses, even when aided by art, any alteration in their modification when possessing or when without this principle. Light may, by its effects on bodies, yield us another illustration of this idea. This principle of life is the preserving principle of the animal, from its being the first cause of those actions whereby it is supported and continued. It is not sufficient that animal matter should be endowed with a principle of preservation; it must have action within itself; and the same arrangement which constitutes the principle of life does also constitute the principle of action: the *power of action* is indeed a step further. The most minute form possessing this necessary arrangement which our eyes can trace is the simple living fibre, whence is formed muscular fibres, muscles, organs, &c. There is this principle of action everywhere where there is life, for action is not confined to the muscles. Life I believe to exist in every part of an animal body, and to render it susceptible of impressions which excite action. This principle of action has been compared to the spring of a watch; but this comparison will not suit, since in a watch the spring alone possesses the principle of action, and is the immediate cause of action, and the action of all the other parts is entirely dependent on the impulses they receive from it; but, in the animal machine, every one will see that the principle of action resides in every part; so that, although action may be created through the whole animal by impulses from one part to the other, yet, the principle of action is inherent in each of these parts, and independent of that of the others.

'The first and most simple idea of life is, its being a principle of self-preservation; the second is, its being a principle of action. The first of these may be conceived to exist without the other; it is not necessary that there should be action where we suppose the other principle to be. A fresh egg has no action, but is as much alive as a muscle: as a proof of which let us observe, that, when an egg is nearly hatched, the yolk is entirely sweet, as well as the albumen, notwithstanding the long heat it had been exposed to; but, if it does not hatch, it becomes putrid. And further:

'*Exp.* 1. A fresh egg was frozen, thawed again, and then exposed to the same degree of temperature (about the freezing point,) with an entire fresh egg; and this latter, which had not been previously frozen and thawed, was six or seven minutes later in freezing than the former. This is to be accounted for by supposing that the former, having been deprived of its vital principle by the previous freezing, froze soon after its exposure to a degree of heat sufficiently low; but that the other egg, possessing the vital principle, resisted freezing until deprived of that principle.

Exp. 2. An egg likewise which had been frozen, and then thawed, was frozen again in much less time than at first.

Exp. 3. A fresh egg, and the egg which had been frozen, were put into a freezing mixture, at 15°, and a thermometer was placed in each: the heat of the dead egg came regularly down to 32°, where it directly froze; whereas the live egg came down to 29½°, where it remained fluid, and then rose again to 32°, where it directly froze. This is to be observed, that freezing may be prevented by many circumstances, and in this case by the presence of the living principle; and, where this happens, the fluid will contain heat some degrees below the freezing-point, and remain fluid until those particular circumstances no longer act, when it directly freezes, which happens in the present case until the living principle is destroyed.

With respect to the principle of action, it is necessary that action should continue in some parts for the preservation even of the principle of action; but in other parts it is only necessary that the principle and power of action should remain, action itself not being in those parts constantly necessary. The living principle, we have before observed, is the principle of self-preservation in the animal, preserving it from putrefaction, which state soon comes on when life ceases, but much sooner in some instances than in others, appearing sometimes even before the departure of life: this last, we may suppose, is the consequence of a morbid or depraved action of the living principle, by which a putrefactive action takes place before death; but it is not certain whether in putrid fever, and even in the other instances, whether this alteration is not owing to some defect in the modification of the parts of the blood, and not a real putrefaction of the blood, which immediately before possessed their natural modification: at least, this process is different from the putrefactive process which takes place after death; nay, this very putrefaction being a part of the disease, the result of a morbid action, this process ceases when the actions of the animal are put a stop to by death, and then putrefaction, or the resolution of animal matter to common matter, begins to take place; so that we may say, that there are two kinds of putrefaction which may take place in animal matter; and it is observed that the latter putrefaction, after the death of such animals as have had this former process begun in them, has not proceeded faster on that account. I may here state, that I have seen two or three cases where this process had taken place before death, the cellular membrane being emphysematous with air thereby extricated; nor did the succeeding process of putrefaction appear to be so much quickened thereby as might have been expected. In the case of a man who had suffered the operation for aneurism of the popliteal artery, the leg, from about the middle of the calf downwards, became entirely cold, pale, and insensible, and was in every respect really dead, not being mortified, which is the consequence of a morbid action, but had as it were really died a natural death from having no blood sent into it. A few days after this man complained of being unwell, and in a few hours there were evident appearances of a resolution, or if you please, a putrefaction through the whole living system, emphysema, opening of the cicatrix of the artery, &c; but the leg, from the calf, suffered little or no alteration, and, after the man's death, it was put into the same degree of heat with the other leg.'

We may here digress for a moment, to remark the extreme simplicity and beauty of Hunter's experiments, and the entire appositeness of his observations. It appears to us, that much of that power of discovering truth, for which he was so distinguished, resided in an extraordinary facility of invention, by which he saw, almost at a glance, the very experiment which would bring his notions to a satisfactory test. Placed as it were at the concourse of many ways, he would, as by a happy intuition, immediately plant his foot in that which led direct to the knowledge he wanted. Accordingly, we find a striking difference between his experiments and those of most other physiologists. The greater part of physiological experiments, however specious at first sight, have been found, after all, to prove nothing, or if they prove anything, it is not the thing required; but each of Hunter's experiments was usually an *experimentum crucis*, and finally settled the point concerning which it was instituted: hence the greater part of those doctrines which he derived directly from experiment stand fast to the present day, and probably will do so to the end of time.

It was to this sagacity in eliciting facts by experiment, conjoined with an unwearied vigilance of mind, which converted even the apparently trifling occurrences of every-day life into the materials of thought, and the means of investigation, that Mr Hunter appears to have owed his superiority, rather than to the extent or accuracy of his general powers as a reasoner. We may indeed observe a remarkable inequality in the operations of his mind. Where he can keep pretty close to the facts, his reasoning is generally correct and powerful; but where the subject is one which calls for lengthened deduction, it is often so much the reverse, that we can scarcely believe we are listening to the same man. And why was this? It was because he had never learned to reason. His natural endowments were of the very highest order, but they had never been regularly cultivated. It is often supposed that every man of great intellectual powers must necessarily be a good reasoner: this, however, is an error. Reasoning, like all other arts, has its fixed principles, without a knowledge and observance of which the most powerful mind on earth cannot practise it successfully in all its extent. It was the want of this knowledge in Mr Hunter which has rendered some passages in his writings unintelligible; a defect which, we think, has been erroneously ascribed to insufficient command of language. The truth seems to be, that the reader cannot understand his meaning, because he did not understand it distinctly himself; the great activity and subtlety of his mind frequently leading him into abstract subjects which the defective discipline of his reasoning faculties did not enable him to grapple with. This source of obscurity in style is not peculiar to John Hunter; whenever a man's ideas are clearly defined to his own mind he can almost always render them intelligible to others:

'Verbaque provisam rem non invita sequentur.'

He may express himself circuitously, clumsily, nay ungrammatically, yet he will be understood; when it is otherwise, the obscurity is in the thoughts rather than in the style. Accordingly, we find that Hunter himself, though his phraseology be generally cramped, and somewhat hard to make out, is still perfectly intelligible, except when his ideas get into a labyrinth. Of this misfortune the present work affords several examples, such as the observations on *diseased actions* and *altered actions*, some parts of which are altogether incomprehensible. It might be supposed that the transcriber had not been able accurately to catch the lecturer's meaning in such passages; but the fact is, all Mr Hunter's works abound with similar instances.

We may here perhaps venture to suggest the importance of the study of dialectics to the student and practitioner of medicine. When we consider that the attention of the physician is continually occupied with the most abstruse and difficult questions, and that he is continually brought in contact, not only with the physical but with the moral and intellectual phenomena of man, is it not obvious that an accurate acquaintance with the principles of reasoning is essential to fit him for his office? And how is this to be attained without a familiarity with the nature and operations of the powers of the mind itself? Yet, as far as we have been able to observe, there is no class of educated men among whom these subjects are generally more neglected than the medical profession. In inculcating the necessity of this kind of knowledge, we cannot appeal to a stronger fact than that the want of it made such a man as John Hunter write many passages which nothing but respect for his name can rescue from the designation of nonsense!

Had Hunter been early trained in habits of severe reasoning, his would have been perhaps the most majestic intellect that ever shed its light over the field of science; even as it was, how great were the results of his untutored genius!

These lectures are not to be considered strictly as a course of surgery; they are rather an application of general physiological and pathological views to surgical subjects: for Mr Hunter well knew that he could occupy the time of his pupils much more profitably than by the details of those mechanical parts of the art, which they could learn for themselves much better in the dissecting-room than any lecturer could teach them.

Before entering on the surgical portion of the work, we cannot refrain from transcribing the following highly interesting observations on Delirium.

'It will be very difficult to prove whether delirium is a disease of the brain or nerves. From the connexion between dreams and delirium, it will be necessary to consider sleep and dreams. Perfect sleep is a cessation of the susceptibility of sensation, a cessation of the consciousness of existence, and a cessation of the relationship which our bodies bear with other bodies; but whether this cessation of susceptibility arises from the brain not having the power of receiving, or the nerves not having the power of conveying, is yet to be determined. Dreams proceed from an action of the mind in sleep, and therefore may be independent of impression, and are without a consciousness of the relationship between the mind and body, and the body and other bodies; therefore, in dreams, we lose that power of distinguishing between real sensation and thought, which constitutes wakefulness. In a delirium, as in sleep, we find the susceptibility of external impression is lessened. While sensation is continued sleep is kept off: delirium likewise may be lessened, by arousing the mind from that particular state by external impressions; so far delirium appears similar to dreams, but it widely differs in other respects. In natural sleep, the more the brain puts on that peculiar state, the *less* we have of dreaming; but the more the other state is put on, the *greater* the delirium. Dreams often do arise from sensations of the body being conveyed to the brain, it being an imperfect sleep; but the consciousness of the connexion between our own body and our own mind being cut off by the state of sleep, the sensation may, or may not, be referred to our own body; it may be referred to some other body. In some cases it is not referred to the part of the body whence the impression is received: the same thing happens in delirium, when the connexion is cut off; then, not distinguishing between real sensation and thought, what the mind thinks about appears to be real. But even where the mind is in full possession of the consciousness of its connexion and relationship with the body, we have in some cases this delusion, as the appearance of the turning round of the objects around us, while they are really fixed, and that in consequence of our having turned round quickly; giddiness from going to a height; from riding backwards in a coach; delusion is also an effect of intoxication and disease. While awake, and in health, impressions produce sensations which are conveyed to the brain, and from these the mind reasons; but, suppose the mind to have lost, or as it were forgot its former connexion with our body, then the above false reference takes place.

'Case 1. A gentleman came into this country in 17 —; his memory was imperfect, and a particular kind of delirium began whenever he was going to sleep, but afterwards continued while wide awake, and for a week before his death he was not quiet from this delirium a moment, but while impressions were forced on him by external objects. His delirium was of this kind; he was continually talking of former circumstances of his life, but referring them to the present moment, and to some other person. There was a revival of past ideas in his mind; but, from want of connexion between his mind and body, he was not enabled, by his present impressions, to infer how little relationship they bore to the present time, or to those persons to whom he referred them; at the same time it really appeared more a want of connexion between the mind and body than the mind itself being hurt, for he determined rightly what should be done in those circumstances which he supposed present, and would express his sentiments in really elegant language. That it depended more on a want of connexion than on disease of the body, appeared from his being sensible of impressions, and referring them to the part where they took place, but supposing that to be in any other body but his own; thus he would tell his nurse and the bystanders that they were hungry, or thirsty; but upon offering food or drink it appeared plainly, by his eagerness, that the idea had arisen from a sensation of hunger in his own stomach. He would show great signs of distress and anxiety, which, he would say, was because his nurse wanted to go to the close-stool, but was restrained by his presence, and this from his own sensations also; he had a violent cough, which he would sympathise with some bystander in, proceeding in his story after the cough, no otherwise disturbed than by sympathizing with the person whom he thought so unfortunate in having it. The objects about him were more to him than his own sensations.

'Case 2. A gentleman, who was fond of his bottle, as he became intoxicated referred all his own weaknesses and feelings to those around him, supposing that every one but himself was drunk; and upon his going home would insist upon undressing all his family and putting them to bed, declaring that they were too drunk to do it themselves; and this happened not once only, but whenever he was intoxicated. I myself once experienced what I have since thought must have proceeded from this want of connexion between the mind and body. I was reading a remarkable case, and reasoning with myself upon it, when I found the letters and words made an impression on the retina, but that I was incapable of affixing a meaning to them; this, I thought, might proceed from want of sleep, but that was not the case. I tried repeatedly, but without effect; and at last went to bed, from which I did not move for three weeks, a violent complaint in the head succeeding this extraordinary circumstance. It may not be amiss to say, that the case I was reading was that of the late Mr Foote, who was not able to command his attention to more than one circumstance or action at a time; thus, if he took his snuff-box out of his pocket, and held it in his hand, it was very well, until he attempted another action, such as taking a pinch of snuff out of it, and then the box immediately fell out of his hand: in fact, he was going back into a state of childhood; for a child is not capable of commanding his attention to more than one circumstance or action at a time: give him first a stick to hold, and call his attention to another object, the stick will be dropped; for it is by habit we become capable of attending to several actions at a time. Turning round, or passing quickly by different objects, it appears as if they were in rapid motion; and if the motion of the body is stopped, the delusion will continue for some time. If a person is blindfolded, and put into a coach, he will think he is moving forwards, though he is really riding backwards. An impression from any part, either healthy or diseased, may be conveyed, the mind having full possession of the impression, and a perfect idea of it, but having nothing to direct it right in its reference of it. It must refer it somewhere, and is more likely to refer to another than to itself.

'Case 3. A gentleman (a medical man) dreamed he had given to a patient too strong an injection, for a gonorrhœa, and that it had produced a total stoppage of urine: he awoke, and found an erection of the corpus cavernosum of his own penis, and that he could not void a drop of urine. Here was impression without the consciousness, and hence he referred his own feelings to another person.

'CASE 4. A gentleman upwards of ninety years of age suddenly lost his senses, and, in consequence of this, was a reference of all the ails which he might be supposed to feel to his wife, who had been dead some time, but whom he now thought alive, and ordering the utmost silence to be observed, lest by noise her illness should be increased. The new-born child has probably sensation without this consciousness. The contrary takes place where a person refers the sensation of others to themselves, or where the idea of sensation is supposed to be sensation itself, as happens to those who are affected by animal magnetism. I was asked to go to be magnetized, but at first refused, because the spasm on my vital parts was very likely to be brought on by a state of mind anxious about any event. Thus, at my country-box, I have bees, which I am very fond of, and I was once anxious about their swarming, lest it should not happen before I set off for town; this brought it on. The cats tease me very much, by destroying my tame pheasants, partridges, &c, and rooting up my plants. I saw a large cat sitting at the root of a tree, and was going into the house for a gun, when I became anxious lest she should get away before my return. This likewise brought on the spasm. Other states, where my mind is much more affected, will not bring it on. Now I feared lest my anxiety for the event should bring on my spasm, and that should be imputed to animal magnetism; but, considering that if any person was affected by it, it must be by the imagination being worked up by attention to the part expected to be affected, and thinking I could counteract this, I went; and, accordingly, when I arrived at the place, I was convinced, by the apparatus, that everything was calculated to affect the imagination. When the magnetizer began his operations, and informed me that I should feel it first at the roots of the nails of that hand nearest the apparatus, I fixed my attention on my great toe, where I was wishing to have a fit of the gout; and I am confident that I can fix my attention to any part, until I feel a sensation in that part. Whenever I found myself attending to his tricks, I fell to work with my great toe, working it about, &c, by which means I prevented its having any effect on me.'

The concluding anecdote is very characteristic of Mr Hunter, and we recommend it to the especial attention of the magnetists of the day; for whose further edification we may relate a curious circumstance which occurred to us some months ago. On our applying the stethoscope to the chest of a poor and very ignorant patient, she suddenly gave a deep groan, and fell back in a state approaching to syncope. On being asked what was the matter, she said that the instrument *drew* her too strongly. She had supposed that it was to act as a remedial agent, probably by drawing the disease out of her; and she hence referred an imaginary feeling to the place of its application, or possibly exaggerated the slight uneasiness occasioned by its pressure into an overwhelming sensation. Now, had the stethoscope been a magnetical apparatus, and we professors of the art, this might have been set down as a striking case. It is by 'facts' such as this that the pseudo-sciences delude their votaries.

The remarks on *Inflammation* afford a very useful summary of the author's great work on that subject; but, as we hope that its contents are engraved on the memory of every British surgeon, we shall not dwell upon them here. Among the miscellaneous subjects afterwards treated of, the following observations on *Hemorrhage* will be read with interest:

'Discharge of blood may be natural, or it may arise from disease or accident. Of the first kind is the menstrual discharge; of the second, are discharges of blood from the nose, lungs, intestines, piles, excessive menstruation, &c. These may be local or constitutional; but the local are more to our present purpose: the causes may be either a peculiar irritation, or a species of relaxation in the vessels of the part. With respect to bleeding from the first cause, that is not a very unfrequent circumstance, the vessels of the part being affected by some particular irritation: bleeding from this cause I have frequently seen upon the action of a new stimulus; thus, I have noticed, after many operations, when the bleeding had stopped by the natural contraction of the arteries, that they have opened again upon the application of the actual cautery in their neighborhood. A discharge of blood from this cause will sometimes happen from surfaces, which otherwise might have been expected to discharge pus. In these cases, instead of the application of styptics, as they are called, sedatives should be applied: the best of these are perhaps opium, and the different preparations of lead. I was called to a sore, which was discharging great quantities of blood; but this was stopped by a poultice of poppy-heads. The loss of no fluid has such effects on the system as that of blood, producing faintings, coldness, cold sweats, &c. Where the loss has been considerable, the absence of the pulse, and extreme coldness, shew the patient to be near the last extremity, and death indeed would most probably be the consequence of any farther loss of blood; but it generally happens that these alarming symptoms immediately following the bleeding are succeeded by a feverish heat, with a quick strong pulse; and here it has been considered whether bleeding is not necessary, to prevent a return of the disease: but it is my opinion, that this rising of the pulse and return of heat are in consequence of a struggle of nature from the loss she has sustained, as if calling up every power. Secondly, hemorrhages, from relaxation, or want of disposition to contract, may happen from external force applied, or from disease. The mouths of the vessels may be stopped; first, by the natural muscular contraction of the cut edges of the vessel, the stimulus from the accident producing this contraction, so that, in this case, the cure arises out of the accident. I do not think if the arteries below the knee were divided by amputation, that the patient would be killed before the natural contraction of the arteries took place. The bleeding was stopped by the natural contraction of the artery in a boar whose thigh was amputated; and in an ass who had bled to death from these arteries, the artery was, after death, found closely contracted; but I believe the arteries of quadrupeds to be more contractile than ours. This contraction is the consequence of the stimulus from exposure and division. Leeches make wounds, for their size, the most difficult to stop of any: this has been said to have been from their taking a piece out of the side of the vessel; if this were all, the contraction of the vessel would be sufficient to stop the bleeding; but I am more inclined to think that the leech poisons the vessel, in consequence of which its contractility is destroyed. Oil of turpentine is perhaps one of the best styptics; it should be applied to the wound, the wound being first wiped clean, and the bleeding checked by pressure, that it may be fairly applied. I have given it often with great success internally, when other things had failed. A gentleman who had had repeated bleedings at his nose, until he appeared like a corpse, sent for me upon a return of his bleeding. I ordered him a draught every two or three hours, with ten drops of oil of turpentine made up with yolk of egg; this stopped the bleeding, and he has continued well ever since; for, whenever there is the least disposition to a return of the bleeding, he takes a draught, which he says prevents it. Another mode by which bleeding is stopped is, by pressure of the coagulated blood round the mouth of the vessel; this is chiefly effectual where the orifice is very large; acting by pressure, it is aided by spongy substances being applied, as lint, argaric, &c. The lateral wounds of arteries are commonly, though improperly, termed false aneurisms; and this has probably originated from a pulsation being felt in them, it having been supposed that only the external coat of the artery had been wounded, and that the internal had given way at this place, having lost the support of its external coat: but the fact is, that the blood escapes into the cellular membrane, and, assisting the external pressure, may retard the bleeding; and where speedy dressings are applied, the bleeding may for the present be stopped; nay, the external wound may be healed by the first intention; but, by the constant and increasing pressure, the surrounding cellular membrane that contains the extravasated blood by degrees gives way, and forms a perfect cyst. These may be divided into two stages: first, while the case is yet recent; secondly, where the cyst is formed. The artery should be taken up before the cyst is formed.

'Case. A young man wounded himself in the thigh; both the crural vein and artery were obliged to be taken up. I would in cases of wounded artery, in bleeding, give a chance to the artery of healing, by speedy dressing, pressure, &c. I made a small puncture in the crural artery of a dog, which healed, and no aneurism was formed.'

The subject of *Traumatic Tetanus* is one on which we are still so much benighted that the sentiments of all intelligent men are worthy of an attentive hearing; we therefore give at full length those of Mr Hunter, whose military practice must have afforded him considerable opportunities of witnessing the disease, and whose accurate observation and deep reflection render all his opinions on practical points so valuable.

Locked Jaw. 'This may be considered as a partial effect of tetanus, and generally the beginning. When the muscles on the fore part of the trunk are affected, it is termed emprosthotonos; when on the back part, opisthotonos. They may be classed with the unnatural or involuntary contractions. Of these is formed a genus, of which tetanus and locked jaw is a species, and of which the subsultus tendinum, spasmus cygnicus, wry-neck, &c, are lower species. Horses, cows, deer, monkeys, and other animals, are liable to this disease. A stag I had died of it. Some parts are more disposed to these affections than others are, as the muscles of the lower jaw; the order of muscles next disposed to it are those which are nearest. The disease spreads, by sympathy, I suppose, through the different muscles. Its cause and nature have not hitherto been sufficiently attended to. Having followed wounds very frequently, it has been supposed a consequence of irritation from those wounds; but these wounds do not comprise the whole of the cause, for irritation merely, such as tends to produce inflammation, will not produce it. A slight irritation may be the exciting cause; but, as a predisposing cause, there must, I think, exist a weak and irritable habit. We seldom find it in a good constitution, or accompanying inflammation. Where there is inflammation, it is always previous to the spasm, the latter coming on generally when the inflammation goes off. This disease often happens from very trifling exciting causes; yet we are not to confine ourselves to these, but likewise attend to the predisposing cause, or the disposition in the habit for such actions. It is not the consequence of irritation increasing the action of the living principle, as in inflammation, but an irritation of the nervous principle; ,or, in other words, the disposition consists in irritability of the nervous system, such as is possessed by those who have a proneness to nervous complaints, not an irritability disposing to inflammatory symptoms. In such a disposition it is my idea that the irritation of a trifling wound (and perhaps from some peculiarity in the irritation,) may be the immediate cause, even though the irritation may not amount to the height of pain: and this irritation may have more effect than a greater degree of pain: thus, tickling may have a greater effect on the nerves than a violent blow on the part. An injury will have a greater effect on the minds of those of weak constitutions than on the strong. Weakened constitutions, we know, are always prone to what are called nervous symptoms. In a woman with child the nervous principle is weakened, though the living principle may be very strong, and exhibits an instance of this kind of constitution.

'Case. I once threw a stone at a deer with so considerable an exertion as to produce an extravasation of blood in the arm; the muscles were so affected, that a loss of motion in the arm immediately followed. I felt myself exceedingly weak, and was very pale; after a little time cramp came on in my leg, but at last this and the other symptoms went gradually off:

if the irritation had continued, a locked jaw might have come on. Now here, from the irritation arising from the injury done to the arm, a spasmodic affection was produced in a person immediately before in perfect health.

'This complaint is most frequent in warm climates, and is even very rarely found in cold ones. Preceding inflammation may be sometimes a predisposing cause, by rendering the nervous system more irritable. Wounds of tendons, ligaments, &c. are likely to be the immediate cause, from their possessing so very slight a power of healing, and thereby keeping up a more constant irritation on the nervous system. How much a wound in such a part weakens, may be deduced from observing that the limb wastes when such a wound has existed any considerable time.

'The wounds producing this disease may be supposed either considerable or slight: the first seems to act as a predisposing cause as well as immediate; the latter, as immediate only. In the first case, the patient is not attacked with the locked jaw until the inflammation is nearly gone off; in general, not until a good suppuration has come on; nay, in some I have seen the healing of the wound so far advanced as to be completed before the jaw unlocked: whereas, in those from slight causes, the locked jaw comes on before the wound begins to heal; and in these cases the disposition may be supposed to be already subsisting. It much oftener appears as the consequence of a slight wound than of a considerable one. It may arise in consequence of other weakening causes, as fever, flux, &c. The period at which it becomes dangerous, by attacking vital parts, seems to be before the constitution has become habituated to it; this is generally within a fortnight: if it does not kill within the first fortnight, the patient generally recovers, and that even though the symptoms continue violent some time afterwards. It kills by the disposition increasing, and the effects extending until they reach some vital part, and which it affects with spasm: in this manner also I think the gout kills.

'The cure has hitherto been attempted by everything which can be termed antispasmodic, but with very little success: the one which has kept its ground longest is opium, though this, in my opinion, has not done the good that was supposed: the cases would, most probably, have done well without it. It may lessen the effects, but cannot remove the cause; it may prevent the simple sensation of pain in the mind, and may do good so far by preventing the pain from weakening still further the patient. Electricity seems to relax the spasm at the moment, but it soon comes on again. Actual cold seems to be the most efficacious remedy, and may be applied to the whole body, or topically to the part. If I were to have a locked jaw, I would be put in an icehouse; the patient would do well therefore to remove to a colder climate.

'Internal medicines I know of none. Forcing the mouth open seems sometimes to do good, but I was told it once killed a patient. In one case, where bleeding was performed about the tenth day of the disease, the patient fainted away, became immediately worse, and died soon after. In another case there seemed to be but little connexion between the wound and the locked jaw; the wound healed, and a considerable time before the jaw unlocked. Opium and musk were both tried in this case, without any effect. In another case, two grains of opium were given every hour, and increased to three grains every quarter of an hour, with no good effect. Volatile medicines were also given freely in this case. The spasm continued even a short time after death. In another case, the patient, who was quite bent backwards, was put into the cold bath, and was relieved a little while in the bath, but was as bad as ever when taken out: it was twice repeated with the same relief; but the moving him put him to so much pain, that he would not allow it to be again repeated. Another patient was so much relieved, when the trunk and jaw was quite stiff, as to be found the next day sitting on the side of the bed. Being obliged to embark for Portugal, I left the patient in this state with the surgeon.'

'I mean now to speak of what I call fungated sores, and which are often taken for cancers; but they agree with cancer, I believe, in nothing but in being incurable. There is one very striking difference between these diseases, — the cancer appears to eat the parts away, while in this new parts are added. This disease appears to me a specific one, and a well marked disease. It seems to be common to every part of the body, while I believe cancer is not. The beginning of this disease is, I think, generally in the form of a tumor, either solid or encysted. As soon as the skin gives way, fungi arise, of a very dark color; this rises so fast, that I believe we have no escharotic which can keep pace with it. It yields a plentiful discharge of matter, but which does not appear to be a poison, as I never saw the lymphatics affected by it. This is the foot of a patient I had in St George's Hospital. You see from the sole of the foot what a considerable quantity of this dark fungus arises. In this case there was no disease of the lymphatics proceeding from the foot, but, about a fortnight after the amputation, the stump swelled amazingly: that however went off, and the patient mended very fast. Here you may observe the same kind of fungus arising from the testicle: here was no alteration in the spermatic chord. I stuck into the substance of this fungus troches of arsenic and wheat-flour, but these did not seem to produce any effect on it. It is this disease also which is the cause of that excessive enlargement of the penis that is generally supposed to be cancerous; this is generally harder than the common fungus of fungated ulcer. The surface of this fungus is in general tolerably smooth, and when cut into, it seems to have somewhat both of a striated and radiated appearance in its substance.

'As there are no means yet discovered by which it can be made to take on a healing disposition, there is nothing left for us but a strict extirpation, so as to leave no part behind; if, in the extremity, amputation is most proper. It is worthy of notice, that this disease kills with much less visible cause of mischief than cancer.'

ART. III. — CASE OF RUPTURE OF THE UTERUS.

BY JOSEPH OSGOOD, M. D.

ON Sunday, May 4th, at 11 P. M., I was called to Mrs E. S., æt. 22, a woman of a delicate constitution, in labor with her first child. I learnt that the labor had commenced suddenly, half an hour previous; that the liquor amnii was discharged. On examination, the os uteri was found fully dilated, and the head engaged in the superior straight. The pains, though regular, yet not being strong, the vertex advanced very slowly. On Monday, at 9 A. M., the perineal tumor was fully formed, and but a few more pains seemed necessary to expel the head. During a pain of no greater severity than the preceding ones, the patient cried out, with a violent pain at the navel — said she could not breathe, and that she felt the motion of the child 'in her belly.' She immediately vomited a pint of bilious fluid. The pulse became frequent and small. Immediately the labor pains ceased, and did not again return. Placing my hand on the abdomen, I felt an irregular surface, differing essentially from the usual rounded appearance which the uterus presents at the full period of gestation. On examination, the perineal tumor had subsided, and the head had receded about two inches from the os externum. A discharge of two or three ounces of blood had occurred. These symptoms indicated to my mind a rupture of the uterus, and the escape of the inferior extremities and body of the fœtus into the abdominal cavity.

I forthwith made known my views of the accident, and requested additional assistance in consultation. Dr Andrew Nichols was with me in a short time, and, on relating the symptoms to him, he concurred in my opinion. As the head was within reach, it was determined to apply the forceps, by means of which, in an hour, a dead child was extracted. The placenta immediately followed, with trifling hemorrhage. The oppression of the breathing gradually diminished from its first occurrence. The surface of the body continued warm, and there was but little faintness. The patient was allowed to lie unchanged for three or four hours — at the end of that time, the pulse having become rather fuller, she was placed in bed at 2 P. M. After delivery, 30 gtts. of Acetated Tincture of Opium were taken, and the same dose was ordered every hour until pain had ceased. 9 P. M. had taken two doses of the opiate, with entire relief from pain. Feels comfortable; countenance bright; surface warm; pulse less frequent, small; abdomen not tumid, and but little tender.

Tuesday, 8 *A. M.* Had passed a good night, slept quietly and had no pain. Countenance and skin natural; tongue slightly coated; abdomen but little more tumid or tender than yesterday. Passed the catheter and drew off a pint of high-colored urine. When the bladder was nearly emptied, the patient complained of severe pain, which soon subsided. — 9 P. M. Has had a comfortable day; at remote intervals had pain, which was uniformly referred to the umbilical region: pulse and other appearances same as in morning. Has taken very little nourishment or liquid of any kind since delivery.

Wednesday, 8 *A. M.* Passed a good night; slept quietly, undisturbed by pain; had vomited once, just before my visit; feels constant nausea; countenance and temperature natural; tongue slightly coated. Tumidity and tenderness of abdomen somewhat increased since yesterday. Drew off, by the catheter, the same quantity of water as before, followed by the same occurrence of pain. 9 P. M. Nausea and vomiting continue unabated, accompanied with great restlessness, which has increased since morning. Countenance sunk; extremities cold; pulse very frequent, scarcely perceptible at wrist; at times delirious.

Thursday, 8 *A. M.* Same appearances as last night. 6 P. M. met Dr A. L. Pierson, of Salem, in consultation, who coincided in the opinion already expressed of the nature of the injury. The patient continued gradually to sink, through the day and night, and death took place at 1 A. M. on Friday morning.

Examination of the body thirteen hours after death.— Externally, the abdomen appeared tumid and somewhat elastic. The uterus could be felt just rising out of the pelvis, firm and hard, rather larger than common. These appearances were exhibited, accompanied with tenderness on pressure, the last day of her life. On opening the peritoneum, which membrane was unusually thickened, several ounces of a bloody serum, exhaling a urinous odor, escaped. This odor was perceptible on cutting through the skin, before the peritoneum was punctured. The cellular membrane, between the layers of the abdominal muscles, was partially decomposed, and allowed of the parts being easily separated. This state of the cellular membrane might possibly be connected with the urinous smell.

The cavity of the peritoneum being laid open, the convolutions of the intestines presented distended with air, and adherent to each other and to the abdominal parietes to a small extent, principally in the umbilical region, where was found a small coagulum of blood, about an inch in length, surrounded by a small quantity of bloody serum, confined in its position by the adhesions. There were some small patches of coagulated lymph on the under surface of the liver, and in the pelvic organs. Externally and anteriorly the uterus exhibited nothing peculiar, except perhaps its size being above the proper standard. On passing one finger into the vagina, an opening was found on its sacral aspect, through which the finger passed and came into contact with a finger of the other hand passed between the uterus and rectum. The uterus and superior portion of the vagina being dissected out, exhibited a solution of continuity on the posterior part, sufficiently large for the passage of a full grown fœtus. Examined on the inner surface this opening extended in an oblique direction, through the superior part of the vagina and the neck of the uterus. Its edges were irregular, and of a deep purple, almost black color. The whole rupture was about four inches in its greatest diameter.

The most interesting inquiry which the above case suggests, is, as to the cause of the rupture. The patient was of thin, lax habit; the pelvis was sufficiently capacious and perfectly well formed. The parturient efforts were neither very severe, nor greatly protracted. The only occurrence of the kind which I have ever known to take place in this neighborhood, was the case of a vigorous woman in Salem, the wife of an Irish laborer, who was accustomed to have very severe travails. In this case the rupture was in the posterior part of the uterus, as in all the other cases which I have seen reported, and was transverse. It was produced by a powerful parturient effort. The woman sunk in a few hours, and delivery was not effected. I do not pretend to offer any reason for the occurrence in the case of my patient.

Danvers, Mass. May 10, 1834.

ART. IV. — CASE OF INFLAMED VEIN, WITH SOME REMARKS ON SPINAL IRRITATION.

BY ANDREW NICHOLS.

THE more we consider and investigate Spinal Irritation, the more important appear the discoveries already made, and the more sanguine our expectations become that by following out the hints derived from this source, most valuable improvements in the practice of medicine are yet to be made. From the investigations which, since writing the essay on this subject which was published in your Magazine for March, I have made among my old patients, I have learned the astonishing fact that in at least three fourths of the cases of *Chronic disease* which have come under my observation and treatment, Spinal Irritation in a greater or less degree exists — how far it is the cause of suffering in many of these cases, I am not as yet prepared to declare. It is surely not always the principal complaint; but neuralgia often becomes the chief source of distress, even where a more fatal but less painful malady is preying on the life. I have now under my care several highly interesting cases, which, when thoroughly treated and the result of the treatment is known, may throw some new light on this interesting subject, and be well worth communicating to the public. In the mean time the following queries which have been suggested to me by cases which have come under my observation are stated that other observers may pursue the inquiries at the same time with myself, and be prepared to favor the public with the answers or conclusions which may result from their investigations.

Does Spinal Irritation exist in most cases of Uterine Irritation, and in those cases where tenderness of the spine is not discoverable on pressure, are there or are there not, indications that the Ganglia of the sympathetic nerve are the seat of the disease?

Do Spinal and Uterine Irritation, uniformly exist in those cases where abortion takes place from the previous death of the Fœtus?

Does Spinal Irritation exist in those cases of excessive suffering from sore nipples, and may not relief be obtained by the application of appropriate remedies to the back?

Does Spinal Irritation usually accompany Phlebitis, and if so, is it the cause or effect of that disease?

Are many of the painful Sequelæ of Scarlatina owing to Spinal Irritation?

Are not many of the sequelæ of sprains, bruises, and fractures of bones connected with Spinal Irritation?

Are epileptic persons frequently the subjects of Spinal Irritation?

Some of the preceding queries were suggested by the following

CASE.

March 25, 1834. Was called to Mrs R. J. aged twenty-four. Found her as described below. Right leg below the knee, painful, extremely sensitive to the touch, and much swollen. Unable to walk or even bear her weight upon it. Great tenderness of the sacral portion of the spine — complains of much tenderness when pressure is made on two or three of the dorsal vertebræ — pains about the chest affecting, more or less, respiration and the action of the heart. According to her own calculation she was in the eighth month of pregnancy; but states that for four or five weeks no motion of the fœtus had been felt, and that her size had been during that time slowly diminishing. The spine and painful limb were ordered to be well rubbed frequently with the following liniment — Ol Oliv., Ol Terebinth., Alcohol Ammon., equal parts, and twenty drops of a mixture consisting of Vinum Colchici one ℥, Tr. Opii. one ʒ, to be given every three hours.

April 1. Pain and swelling of the limb relieved, walked about the chamber, but during the night following suffered severely from Neuralgic affections of the chest, &c.

April 2, 8 *o'clock*, *P. M.* Was called to attend her in labor; had had regular pains for several hours; os uteri not at all dilated; gave Opii. gr. ii. and left her. Was called again at 5 o'clock the following morning. No sleep; pains gradually increasing through the night; os uteri a little opened. Continued in attendance. Uterine contractions feeble but painful; on touching the os uteri several times cramp in the right foot took place. Considering this, as well as the kind of pains, to indicate irritable uterus, frequent examination was avoided, and no attempt to expedite delivery by manual assistance was made. Eleven o'clock, A. M. os uteri well dilated, the membranes ruptured, and the head descending into the vagina. Ergot gr. xvj., in decoction, was given. Some increase of uterine contraction followed, and in about half an hour, after slight vomiting at one o'clock, P. M., she was delivered of a fœtus apparently long dead, and of not more than six months' growth. The placenta came away without difficulty, and she was placed comfortably in bed. Nothing which indicated danger was discovered by her nurse or friends, until about three o'clock next morning, when she asked her nurse for something to take, saying she felt dreadfully. A little camphorated spirit was immediately given, and applied externally. She complained of distress and numbness, and repeatedly declared herself to be dying, which her friends who were present could not believe. She raised herself on her elbow, turned over on her side, and expired in not more than twenty or thirty minutes from the time she first complained of the fatal distress. Her nurse thinks that she had been lying on her back, and had in that position probably slept — how long, cannot be ascertained, for at the same time her nurse slept, also.

Sectio Cadaveris, thirty hours after death. On the morning of April 5th, the body was examined by Dr A. L. Peirson in the presence of myself and several other physicians. The body was laid on the face, and the spinal canal opened throughout its whole extent. The theca presented a natural appearance, externally and internally, as did the spinal marrow and enveloping membrane, except its substance being somewhat softer, than natural. In the thorax the lungs presented no morbid appearances with the exception of pleuritic adhesions, especially of the left side, and a small spot of hepitization. The form of the ribs exhibited, in a most marked degree, the effects of tight-lacing. The anterior half of each of the lower ribs were so pressed downwards as to form a line exactly parallel to the spinal column. The smallness of the waist corresponded with this distortion. No morbid appearances were found in the pericardium, heart or its valves.

The uterus presented externally the usual appearances it exhibits after travail, and was about the size of the full grown fœtal head. Its cavity was lined with a fibrinous coating in some parts yellowish, and in others bloody. The orifice of the uterus and upper part of the vagina was smeared with a bloody mucus. So far in the examination nothing was discovered which served to explain the cause of sudden death.

The external iliac vein was now dissected out, and being slit open presented a healthy appearance, which continued unchanged in following the femoral vein down the thigh as far as the lower third of the femur, at the spot where the femoral vessels pass through the tendon of the triceps femoris. Here the vein became thickened, dense, and cut like the artery and like the artery remained patulent when cut across. From this spot downward the vein was filled with a very firm coagulum of the color of venous blood, as far as the lower third of the tibia. At this spot and for an inch or two in all directions, all the tributaries of the principal vein were found in the same condition. On removing the coagulum which was very adherent, the inner coat of the vein exhibited a dull red color, and in one or two places there was seen a small patch of effused lymph. No pus was discovered within the vein.

Remarks. In this case irritation of the spinal marrow existed, and from my knowledge of the patient, having occasionally prescribed for her complaints, had existed for several years. She had aborted about a year since, in the third month of pregnancy. Here was Neuralgia and Phlebitis in the same limb. The neuralgic pain was so far relieved that the patient thought herself nearly cured; and yet, as appeared on dissection, the inflammation of the veins continued unabated. That this state of things did not arise from a benumbed condition of the nerves, seems evident from the fact, that irritation of the os uteri produced cramps in the foot. This case also suggests a caution to practitioners not to be hasty in concluding that when they have discovered, on examination, great tenderness of some portion of the spine, that they have discovered the whole cause of the suffering of their patient; for it seems a much more formidable disease may lurk beneath neuralgic affections. After all, a most important question remains unanswered. What was the cause of sudden death in this case — Phlebitis, or a paroxysm of Neuralgia affecting the heart? The complaints which she uttered were not unlike those which escape the lips of persons dying suddenly, under circumstances differing widely from hers. Several instances of sudden death have occurred, under my observation, of persons who had been confined to their beds with broken bones — after the cure, from all appearances, was nearly effected. In one instance, after confinement from parturition, the patient had so far recovered as to be up, dressed, and walking about the room. She was suddenly attacked with distress, about the chest and epigastric region, as was inferred from signs, for she could not speak, and died in less than thirty minutes. No cause of death was discovered on dissection. In the case last mentioned there was spinal irritation, and she had had, after previous accouchment, Phlegmasia Dolens.

Does the case now reported bear any affinity to the cases of sudden death after operations, in which air is supposed to enter the veins?

Danvers, May 11*th*, 1834.

ART. V. — OUTLINES OF PHYSIOLOGY.

Designed for the Use of the Higher Classes in Common Schools.

BY GEORGE HAYWARD, M. D.

IN our last number we had occasion to notice a publication which inculcated the study of physiology on parents and teachers, and we were ready to join in the recommendation. It is now proposed to make it one of the branches of instruction in common schools. We question both the expediency and practicability of so doing. We strongly incline to the belief that 'the march of mind' has, in this case, taken a direction which will lead to no valuable attainments.

Among many considerations which have brought us to this opinion, one alone seems conclusive against the plan, and that is, that instruction in this science for young persons, must, with our present notions of propriety, be *partial;* and *partial knowledge* of an organization like that of animal beings, where the entire apparatus is so dependant on the relations and sympathies of all its parts, is little better than no knowledge at all, if it be not necessarily a positive *error*.

However, the thing will be tried, and we are glad that the schoolmasters are supplied with so good a text-book as Dr Hayward has made. The subjects of the several chapters are well chosen, and treated with great simplicity and clearness, communicating knowledge without pedantry or affectation. The style is uncommonly appropriate for a school manual, and if it do not make the rising generation physiologists, it will do them no inconsiderable a favor by contributing to improve the character of the literary department to which it belongs.

COLLECTANEA.

CASE OF EMPYEMA, CURED BY PARACENTESIS ALONE.

BY GEORGE WOOLLEY, ESQ.

ON March 14th, 1833, I saw George Louch, aged five and a half years. He had been a healthy child till the preceding November. At that time he became the subject of fever, attended with inflammation of the brain, from which he was hardly convalescent when he had an attack of pleurisy on the left side. He appeared not to have perfectly recovered from the latter. His mother said there remained cough, accompanied sometimes by pain, want of appetite, and weakness, — that he had not since the attack been able to leave the house, — had latterly become much worse, — and that she thought his chest had grown out on the left side.

I found him very much emaciated, laboring under hectic fever; pain in the left side; great dyspnœa; harsh dry cough; constant thirst; entire loss of appetite; disturbed sleep, and delirium at night.

On examining the thorax, it was obvious to the eye that the left side was larger than the right, which was also proved by admeasurement; and there was an even and smooth appearance of that side from the dilitation of the intercostal spaces. The heart was pulsating on the right side in a situation precisely corresponding with that which it ought to have occupied on the left. On percussion, more or less of dulness of sound was observable over the whole of the affected side, but most at its lower part. Auscultation showed the entire absence of respiratory murmur on the left side, anteriorly and laterally; it was heard posteriorly all along the spine, but the sound was less loud than natural, and was accompanied by mucous rattle.

These circumstances seemed sufficiently to indicate that the left pleural cavity was occupied by pus, the lungs compressed, and the heart pushed to the right side of the chest; and as the symptoms were urgent, I deemed it my duty to remove the fluid by paracentesis as speedily as possible. I accordingly proceeded to perform the operation.

The child sitting on his mother's lap, and supported by her, a small flat trocar was passed into the thorax through the interspace between the seventh and eighth ribs, at the part where the digitations of the seratus magnus and external oblique muscles meet. Pus of a healthy character flowed freely through the canula, and two basins full were extracted measuring forty three ounces. A considerable quantity also escaped by the canula, so that, altogether, probably, not less than three pints came away.

Towards the end of the operation owing to the child being very unmanageable, it was impossible to prevent a good deal of air from entering the thorax, which occasioned severe coughing, and ultimately obliged us to remove the canula, before the pleural sac was quite empty. The aperture was carefully closed with a strip of adhesive plaster, and the little patient was returned to his bed ; he soon felt much relieved, ate half a round of dry toast, and drank some tea, having taken nothing during the preceding twelve days but toast water. An opiate was given him, and he had thirteen hours of easy and tranquil sleep.

On the following day the hectic fever, thirst, dyspnœa, pain in the side and cough had disappeared, and this absence of unpleasant symptoms continued for a few days. But the heart remained on the right side ; there was no return of respiratory murmur anteriorly ; percussion shewed the gradual refilling of the pleural cavity, and the symptoms came back and were nearly as bad as ever.

On the 28th, thirteen days from the first operation, the trocar was again introduced ; but now, between the ninth and tenth ribs, and two inches nearer to the spine. Thirty eight ounces of pus were abstracted ; the puncture was closed as before. The child slept well without an opiate, the symptoms all vanished, not again to reappear, and the little boy was soon playing about the room. Respiratory murmur gradually returned over the whole left side. The heart, after some days began to remove to its natural situation, was soon found under the sternum, and in two or three weeks had re-established itself in its right place.

As nothing remained after the second removal of the fluid but debility, which was rapidly diminishing, no medicine was given to the child except once or twice, something of an aperient nature, when the bowels were not sufficiently open. He is now quite stout and healthy.

The only observation I shall make on this case is, that the rapid and favorable convalescence of the patient appears to me to be attributable to the closing and healing of the puncture immediately after the operation. — *Lancet.*

ADMINISTRATION OF SULPHATE OF MAGNESIA.

There is no purgative used as a domestic remedy or medical prescription, which is in so extensive use as Epsom Salts, and the following article, which we extract from the January number of the Edinburgh Medical and Surgical Journal, will put our medical readers in possession of a formula which obviates much of the objection to which this medicine is liable from its bulk, its nauseous taste, and griping qualities. We are disposed to think Dr Henry does not commend his improved formula too highly. Perhaps if the use of the medicine be continued for a long time, a little caution may be necessary to guard the teeth from the action of the acid.

'An account of an improved mode of administering Sulphate of Magnesia, 'Epsom Salt,' whereby it is rendered an agreeable, safe, and efficacious purgative, applicable to almost every case in which a purgative is required. By James Henry, M. D., Vice President of the King and Queen's College of Physicians in Ireland.

Saturate any quantity of cold water with sulphate of magnesia; filter through paper, and add to every seven ounces of the solution one ounce of the dilute sulphuric acid of the Dublin or Edinburgh pharmacopœia, (which solution is prepared by adding seven parts pure water to one of sulphuric acid.)

Dose. One table-spoonful in a wine glass of water.*

In those cases in which the bowels are very easily moved, a single table-spoonful is sufficient to produce a considerable purgative effect.

In ordinary cases, a table-spoonful taken an hour before breakfast produces one or two evacuations immediately after breakfast.

In other cases, the dose is to be repeated once or twice, at intervals of two or three hours, according to circumstances.

When the symptoms are urgent, a table-spoonful may be given every hour, until the effect is produced; and where the urgency is extreme a saturated solution of the salt, containing only one half of the above-mentioned quantity of acid, may be given in doses of two table-spoonfuls, repeated every hour.

This combination of sulphate of magnesia and sulphuric acid, administered according to the preceding directions, possesses the following properties:

1. It is an effectual purgative, never failing to move the bowels in all cases in which the bowels can be moved by medicine. I am not acquainted with any purgative which is more certainly effectual.

2. It is quick in its operation; the effect being produced in

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* Each table-spoonful contains about two drachms of sulphate of magnesia, and half a drachm of dilute sulphuric acid.

ordinary cases within two or three hours after the first or second dose, and a necessity rarely arising for the continuance of the medicine beyond the third dose.

3. It is safe, never purging so as to produce exhaustion.

4. It does not give rise to the slightest degree of nausea, but on the contrary,

5. Quickly puts a stop to nausea, and appeases irritability of the stomach.

6. Flatulence, that most distressing attendant upon constipated bowels, is immediately and signally relieved by this medicine, which not only promotes the expulsion of the flatus already generated, but diminishes the tendency to its further secretion.

7. In a few minutes after this medicine has been swallowed, so agreeable a sensation of warmth is felt in the stomach, that the medicine is not only readily taken, but even relished by many persons whose stomach will not retain any other liquid purgative, unless impregnated with the hottest aromatic tinctures.

8. The operation of this medicine is not attended by either sickness, faintness, or griping. In this respect the acid saline solution possesses a remarkable superiority over all the purgatives in common use.

9. This medicine may be taken every day, or every second day, for a considerable length of time, not only without impairing the stomach or other digestive organs, but with manifest advantage to them.

10. The continued use of this medicine does not produce that irritation of the rectum, which so commonly attends the continued use of other purgatives.

11. This medicine is not disagreeable to the sight, being perfectly limpid and transparent as the purest spring water.

12. It has no smell.

13. The bitter nauseous flavor of the sulphate of magnesia being almost completely hidden by the acid, the taste of the solution can hardly be said to be at all disagreeable, and is certainly much less so than that of most other liquid purgatives.

14. It is cheap.

15. It is easily procured every where.

16. It keeps for an unlimited length of time.

From the experience of three years, during which I have made daily use of this purgative in my practice as a physician, I have ascertained that the acid saline solution possesses the properties which I have just enumerated.

BARON DUPUYTREN ON WOUNDS OF THE HEART.

But a few years ago, observed M. Dupuytren, wounds of the heart were regarded as necessarily fatal, and numerous theses have been written to illustrate their certain and immediate fatality. Even still, notwithstanding the observations made at the Hôtel Dieu, and other hospitals, the contrary opinion is far from being generally admitted. It is, however, well made out by post-mortem examinations, that wounds which implicate the substance of the heart offer a chance of recovery, to whatever depth it has been penetrated, and whatsoever cavity may have been penetrated. The examination of animals killed in the chase, in the substance of whose heart balls or well marked cicatrices have been found; as well as those of individuals who have presented all the symptoms of wounds of the heart, and who, nevertheless, have perfectly recovered; the case in particular, of a soldier, in whom, six years after the healing of a wound, a jagged ball was found in the right ventricle, near the apex of the organ, and partially covered by the pericardium — confirms the justice of this view of the question. Accordingly, all well-informed persons admit that penetrating wounds of the ventricles or auricles, provided they be narrow, may not only fail to prove instantly mortal, but may even admit of being healed. Wounds of the heart, from penetrating instruments, come particularly under this observation. The acupuncture of the heart practised at Warsaw without any perceptible effect, in cholera, is another convincing proof. In this operation the point of the instrument separates and distends the fibres of the various tissues, and occupies their place without causing much pain, and without producing a solution of continuity; and when it is removed the parts return to their natural position, the opening is closed, and no loss of blood takes place.

It is not, therefore, surprising that simple wounds, such as the above, should be curable; but it may be imagined that the case is different when the wounds are made by instruments at once penetrating and cutting, or cutting only, and which, entering the cavities of the heart, make openings in their parietes of greater or less extent. If the wound be at all considerable — some lines, for instance — whether in the auricles, or ventricles, death follows instantly, in consequence of the profusion of blood which deluges the chest. Several facts, however, demonstrate that death may not be so sudden as is usually supposed. The following case at the Hôtel Dieu is very conclusive — proving that a patient may be cured of a wound in the heart, which had not been recognised during life, and which might have escaped detection had not other complaints supervened which proved fatal and thus afforded an opportunity of examining the heart.

The case above related leads to the conclusion that wounds of the heart, though eminently dangerous, are not necessarily fatal; and this, in a medico-legal point of view, gives rise to various imporant considerations. It is apparent, for instance, that wounds of the heart hold out a chance of recovery; nevertheless, in calculating upon such chance, the depth to which the instrument has penetrated must be taken into account, as well as the direction of the wound and the size and shape of the weapon, &c. Wounds implicating the heart vary in their situation and in their extent — they may be superficial or profound. The former involve only part of the parietes of the heart, the latter penetrate it completely; and there are cases on record where several of the walls have been pierced. The direction of the wound may be transverse to the greater number of fibres, or removed from this by various degrees; there being an unequal hiatus of the edges, dependent on these circumstances. When the instrument cuts a greater number of fibres across, the gaping is of course greater, and the flow of blood more copious than when the wound is parallel to the direction of the fibres. Now as the heart is composed of numerous layers of fibres running in different directions, it is evident that in a wound penetrating the cavities, if one such layer tends to separate its sides, others must tend to keep them together.

The extent of the wound also makes much difference in the chance of recovery; and this depends on the size and shape of the weapon, and on the force of the blow. The wound from a ball will, of course, be rounded; while it will be linear if the instrument be a thin blade, and lacerated and irregular if it be angular. Every part of the heart is liable to be wounded, but the left cavities are less so than the right. The right ventricle is more frequently laid open than the auricle, as also is the left ventricle opened more frequently than its auricle. Other circumstances being alike, a wound of the walls of the left ventricle is more likely to heal than a similar lesion of any other part of the heart. Wounds of the heart may be complicated with affections which do not necessarily accompany them — such as division of the intercostal artery; a large aperture in the abdominal parietes; wound of the lungs; diaphragm, &c. It is also necessary to take into account the moral condition of the patient at the time of receiving the wound — his age and general health. To shew how formidable wounds of the heart must be, it is only necessary to look at their immediate results, or at their consequence and complications. First in the rank comes hemorrhage, whether primary or secondary — whether the source of it be the cavities of the heart, or its superficial vessels, or those of some other thoracic viscera. Then we have inflammation of the heart itself, or of the pericardium or other parts; and another effect is the sudden suspension of the heart's pulsations. Nevertheless, severe as are such wounds, it is certain that in many cases they do not cause immediate death; that in others they are mistaken or overlooked, and that in some they are followed by cure.

It is unnecessary to say that such wounds are extremely dangerous; still they are not altogether desperate. The symptoms which accompany wounds of the heart are not all of the same degree of importance, some being uncertain, while others are characteristic. The aspect of the præcordial region ought first to arrest our attention; if there be any wound here, accompanied by hemorrhage, fainting, small pulse, cold extremities, vomiting, anxiety, oppression and sense of weight on the diaphragm, then there is ground for the liveliest apprehensions. To these signs of wound of the heart have been added, a peculiar tremor of that organ, inequality and feebleness of the pulse, very sharp fever, crepitation, and a particular *bruissement.* The diagnosis of wounds of the heart is very difficult to establish, because the symptoms are rarely all present; and it is this uncertainty which has led to the cure of perhaps many lesions of this organ being overlooked; but it is not the less certain that such cure is possible, and that there are positive instances of this kind. It ought therefore to be established as a general rule, that all these wounds, however serious they may appear, should be treated as if they had not penetrated. The treatment to be followed in all such circumstances consists in bleeding, absolute rest, dressing the wound simply so as to arrest the flow of blood, and to prevent the entrance of air; and, lastly, to apply cold. The drink to be acidulated. As to the bleedings, they must be frequently repeated, and proportioned to the oppression of the breathing, and the strength of the subject. With respect to the mode of dressing, it must be such as to close the external wound. Whatever be the degree of difficulty in breathing, the extravasated blood must not be allowed to escape, unless instant suffocation be threatened, in which case a little blood must be allowed to flow; but, otherwise, it is important to keep in mind, that the opening of the chest ought never to be practised till the internal hemorrhage has ceased, which may be known by the return of warmth and color to the surface. It is not necessary, however, to remove the dressings when the bleeding is thought to come from the intercostal artery. The cold ought to be applied as extensively as possible. The application of cupping glasses, particularly over the wounds, ought to be proscribed; this last, indeed, is only calculated to renew the internal hemorrhage.

Internal remedies, such as digitalis, belladonna, &c, have been recommended, by way of controlling the action of the heart, but they are probable of little use. —*Med. Gaz.*

MEDICAL FORCE OF LONDON.

According to a list given in the Penny Magazine of this day (Feb. 1), the number of physicians practising in the metropolis is 205 — of surgeons 1306 — of chemists and druggists 615 — and of dentists 120. These numbers are gathered from the names and addresses in the Directory; but there is every reason to believe that they fall considerably short of the actual amount.

Med. Gaz.

PROPAGATION OF LEECHES.

To the Editor of the Lancet.

Sir, — On perusing the interesting account regarding leeches, in your Journal of this day, I thought the following extract from a lecture on leeches, delivered by me at the *Westminster Dispensary*, might be useful. Yours truly,

JOHN EPPS, M. D.

'Leeches, gentlemen, being thus valuable as medicinal agents, it has always been a matter of inquiry, *What is the best mode of keeping leeches so that they may* propagate?' A great variety of means has been tried. No success attended any plan but one that was devised by the physician-general to the forces in one of our West India islands (I forget the gentleman's name). He took *clay*, and having worked it well, placed it in the centre of a large vessel in which he kept leeches. He found in a short time that the leeches burrowed holes in this clay, so as to give it a *perforated appearance;* and, much to his delight, observed *young leeches to appear in a short time.* After this, this gentleman found no difficulty in obtaining any supply of leeches.'

This extract strikingly corroborates one remark of Mr Sheriffs's, namely, that the *earth*, which he recommends to be put in the box, *will answer better* if it be of a *clayey* nature. And I have very little doubt that if he watches with care he will observe *ova* at the proper season.

J. E.

TRANSFUSION IN UTERINE HEMORRHAGE SUCCESSFULLY PERFORMED BY CHARLES WALLER, M. D.

I forward for insertion in the Lancet, the details of a case which has lately occurred, in which transfusion of blood was employed with the happiest result.

On the 18th of December, about half past one, I was requested to visit a patient thought to be sinking from uterine hemorrhage; she was about eight months gone with child, and had no distinct labor pains. Mr Greaves, the gentleman in attendance, informed me that she had been losing blood in large quantities for several days, that he had this day examined, and found it to be a partial presentation of the placenta; on introducing his hand for the purpose of turning the child, the patient was seized with such death-like faintness, that he thought it prudent to desist, and I was desired to meet him in consultation. He had been exhibiting stimuli from time to time without the least apparent benefit.

The countenance of the patient when first seen by me was completely blanched, not the least appearance of redness being observable in the cheeks or lips, the extremities cold, the breathing very laborious, the pulse excessively feeble, the whole surface of the body was cool, and the skin had a soft yielding feel, and indeed her general appearance was that of a woman sinking from exhaustion. A quantity of ardent spirit was again given her, but it failed to excite even a temporary rally.

The question naturally arose, What is to be done? and the usual answer would have been, to deliver immediately, taking every precaution in our power to secure the patient from hemorrhage afterwards. But the objections to this plan were so great, that we did not think ourselves justified in making the attempt: — the female was lying in a condition which rendered it doubtful whether she would rally at all, and certainly in that state wherein a further loss of blood must have at once destroyed her. The vagina was now filled with coagula, and the circulation so low that the hemorrhage had entirely ceased. The introduction of the hand must of necessity have disturbed the clots, and have unstopped the orifices of the bleeding vessels, and thus renewed the hemorrhage; and, indeed, my deliberate judgment is, that the mere act of delivery, even unattended by any further effusion of blood, would have caused immediate dissolution.

After waiting for some time, and repeating the stimuli, combined with nourishment, we found our patient getting weaker, and it appeared to us, that transfusion offered itself as our only resource. The question as to the propriety of emptying the uterus first was then agitated, but for the reasons just mentioned, we thought it better to endeavor to revive her by at once performing the operation, watching very narrowly that the hemorrhage did not come upon us unawares, determining not to interfere at all unless the bleeding was renewed.

The operation was performed in the usual manner, rather more than four ounces of blood having been injected, which was supplied by a female in attendance. The patient then appeared greatly revived, and as the blood flowed very sluggishly from the arm of the person supplying us, we agreed to inject no more at that time. Small quantities of nourishment with stimuli were occasionally given, and for about two hours we seemed to maintain the advantage we had gained, but in a short time subsequently, the symptoms of exhaustion returned, attended with jactitation.

I gave the patient at this time a little gruel with about an ounce of brandy in it, but although it was retained on the stomach, no improvement was observed, but rather the reverse, and it was therefore agreed once more to transfuse. The first four ounces of blood were taken from the individual who furnished it before, but no good effect was noticed; and as she bled very slowly, I requested her husband to allow one of his veins to be opened, the blood from which flowed in a very impetuous stream. After five ounces had been thrown in (in addition to the previous four ounces taken from the woman), the rally seemed perfect, and there was even a slight tinge in the capillary vessels of the cheek, but as her husband was by no means faint, and as we were anxious to avoid the necessity of again operating, three ounces more were transfused, making altogether rather more than twelve ounces at the *second*, and between four and five ounces at the first injection.

There was from this time no relapse; the patient took nourishment frequently, given in small quantities, and complained of nothing but a feeling of extreme fatigue: she had during the evening some grinding pains: about five in the morning the uterus was beginning to act well, and Mr. G., who was with her, informed me that she was safely delivered of a dead child about six o'clock, there being no recurrence of hemorrhage.

She remained very comfortable for the first three days, but on my visit to-day (23rd) she complained much of her head, attended with great thirst. Se had an enema administered on the 21st, which procured a very satisfactory alvine dejection; this was repeated yesterday (22nd), but came away without motion, on which account Mr G. ordered half an ounce of castor oil to be taken, which purged her violently; her tongue to-day is dry and glassy, and she has but little rest. Utatur Capiti *Lotio Evaporans*, et cap. 4tis horis, *Mist. Salin.* cum *Tr. Opii* ♏ vij. —*Lancet.*

Of the Fœtus Breathing and Crying in Utero.

I was called up one night by an intelligent pupil in the hospital, who informed me, that a very strange sound was observed to come from a patient in labor, resembling exactly the whine of a child.

On going into the labor ward, I found the nurses and pupils surrounding a patient's couch with out-stretched necks, listening with greatest intensity and amazement; and on approaching within about six feet of the bed, I distinctly heard a low moaning whine, resembling the faint and painful cry of a delicate seven months child; this became more distinct the nearer I approached the patient, and there could be no doubt whatever, that it came from the abdomen of the woman on the couch, however produced. Still sceptical, I applied the stethoscope, when the fact was proved beyond a doubt, as not only the cry mentioned, but the labored respiration of the fœtus was perfectly audible. A vaginal examination was instituted, and the head was found presenting, but high in the pelvis. The parts were only partially dilitated, although the membranes were ruptured, and the waters had drained off shortly before. This woman was not delivered for four hours, and the above phenomena were observed by several of the pupils, up to the time of the child's birth. This patient's name was Morell, the date of her delivery the 2nd of December, 1830.

This case not only establishes a curious, we had almost said incredible fact, but in a medico-legal point of view, is of some importance, and shows in a striking manner the futility of some of the tests most depended on in child murder. — *Dr Kennedy on Obstetric Auscultation.*

Use of Iodine against Salivation.

Every medical man knows well how difficult, and yet how desirable a thing it is, to check a profuse salivation, whether it has been induced by mercury or not. Hufeland informs us that in iodine we possess the wished-for means. In seventeen cases it was employed with striking benefit; the severe smarting, the tumefaction of the glands about the mouth, and the profuse flow of spittle ceased after three or four days use of it; and the mercurial sores often healed up at the same time.

The dose usually given at first, was two grains in the course of the day; and it was increased to four grains, in the following formula.

℞. Iodini, gr. v., solve in
Spir. Vini, ʒ ij.
Aquæ Cinamomi, ℥ ijss.
Syrupi. ℥ ss., M.

Half a table-spoonful to be taken every six hours — the dose to be gradually increased. — *Med. Chir. Rev.*

ON THE BEST MODE OF TREATING GONORRHŒA, BY ONE OF THE SURGEONS OF THE LOCK HOSPITAL.

The object of the author of this paper is to show that gonorrhœa, though, perhaps, a specific complaint, is commonly attended with the symptoms, and frequently complicated with the ordinary consequences, of inflammatory action. This inflammation may be limited to one tissue, or extend to several. In the commencement, it is seated in the mucous membrane; if aggravated, it invades the corpus spongiosum, the lacunæ, the cellular membrane of the penis or the perinæum, or it spreads by continuity of texture to the prostate, the bladder, or the testicle.

The symptoms characteristic of inflammatory action are briefly and obviously these: — pain in the act of micturition or erection, experienced both at the orifice alone, in that part of the urethra contained within the glands, or, more rarely, along a greater portion of the canal. The enlargement and tenderness of the lacunæ — the thickening and pain on pressure of the corpus spongiosum, with its usual symptom, chordee — the œdema or the fluctuating swelling of the penis — the deep-seated pain, the swelling, and the obscure fluctuation of the perinæum — and the special symptoms which attend on inflammation of the bladder or the testis, are sufficient and decisive evidence of the inflammatory complications enumerated above.

So long as there is *pain*, I conceive that there is sufficient inflammation to prohibit the internal exhibition of stimulants, or the administration of injections. If pain is removed, and lacunar enlargements or induration of the corpus spongiosum remains, I still disapprove of the use of cubebs, copaiba, injections, or other remedies of that description. Some gentlemen may entertain a contrary opinion, and triumphantly refer to their success. Without impugning their judgment or their observation, I must still presume to confide in my own. I have used the best means I possess of arriving at the truth. My field of observation has been ample, I have endeavored to divest myself of theory and prejudice, I have carefully observed the facts which came before me, and watched the effects of methods and of medicines. If others are dissatisfied and sceptical, I can only reply, in the words of Mr Boswell, 'what won't fill a quart-pot will fill a pint,' and confess myself the pint-pot in the present instance.

Gonorrhœa, then, should be treated, whilst pain remains, as another inflammatory complaint — by calomel at night — by active purgatives of senna and of colchicum — by diluting and mucilaginous drinks, combined with soda and with nitre, in order to diminish the stimulating nature of the urine[*] — and, if the symptoms are obstinate or severe, by leeches to the penis, or by cupping on the perinæum, succeeded, if necessary, by the application of blisters.[†] These means, with slight and with obvious modifications, would be such as the judicious physician would employ in the inflammation of any organ. Erroneous notions of the venereal disease, and the prevalent disposition of mankind to believe in a specific, would seem to have led to a general disregard of natural precaution and established principles in the management of gonorrhœa.

When pain has ceased, or when the other symptoms of inflammatory complications have subsided, then, and not till then, would I recommend the use of cubebs or copaiba. The more I see the more I am convinced that the latter is the better of the two. If the surgeon and the patient restrain their ardor, and defer its employment till the period I have specified, it is astonishing how few doses, and in what small quantity, are sufficient to diminish or to check the discharge. I am also convinced that injections of the acetate of lead, are infinitely preferable to others of a stimulating character. The strength of the injection of alum may be raised to the point of saturation, and that of the solution of lead to the amount of twelve or of more grains to the ounce. Copaiba need never be given in large doses — injections of lead are generally sufficient — but perhaps more caution and more discrimination are required in *timing* than in *measuring* these remedies.

There are some incidental points on which I may make a few practical remarks, or rather, on which a hint may be expended.

The florid and robust would appear to be cured with more facility than those of a pale complexion, and a nervous temperament. The symptoms of the former are often more acute but generally more amenable to measures of depletion. The latter frequently require some preparation of opium, and the best has appeared to be Dover's powder. A full dose at night, succeeded by the ordinary purgative in the morning, has relieved many urgent and anomalous symptoms. Let not the surgeon be betrayed into tonics in the treatment of these individuals. Sedatives often suit, stimulants or tonics scarcely ever.

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[*] The formula into which I have *settled* is this.
Pulv. trag. c. ʒij. *Pot. nit.* gr. vj. *Sod. carb.* gr. x. *Pulv. ip. c.* gr. iij. *M. 4tis. horis*, c̄ *Dec. hordei*, Oss.
Barley-water or linseed tea, or some other form of diluent, should be liberally drunk in addition to this.

[†] I find such benefit from leeches and from cupping, that, if the case is at all acute, I ordered them immediately, and repeat them frequently. The pain and scalding are speedily relieved, the period for copaiba materially accelerated, and the cure effected with more despatch and with more satisfaction.

Gonorrhœa is frequent amongst the debauched, whose constitutional powers are destroyed by intemperance and by excess. Such patients are known not to bear much depletion. But they *do* bear purging, and they bear it well. Their inflammatory symptoms are usually speedily relieved by purgation, diluents, and temperance, and their treatment is, after all, less difficult than that of irritable, though not intemperate individuals.

It is said and believed, that successive attacks of gonorrhœa become more mild and more amenable to treatment. This is far from universally correct. A gentleman is under my care, who contracted his first gonorrhœa at Cambridge. He labored under discharge for six months. He lately experienced a second infection. The symptoms were exceedingly severe, and in spite of much care, though not of absolute precaution, hernia humoralis has resulted. A patient was lately in the hospital, from whom the following particulars were obtained. His first gonorrhœa had occurred three years before his admission ; it lasted for six months — the second, two years before his admission ; it lasted for two months — the third, sixteen months before his admission ; it lasted for six weeks — the fourth thirteen months before his admission ; it lasted for five weeks— the fifth and last, seven months before his admission ; it had lasted for those seven months, and for it he was admitted. I might mention many other similar facts. The surgeon should consider the patient's symptoms rather than the ordinal numbers of the gonorrhœa.

I have formerly remarked that itching in the urethra is a common symptom. It sometimes remains as a solitary feature, but more frequently it is observed as the cure is about to be effected. I always regard it, on this account, with a feeling of satisfaction. I suppose it depends on a condition of the vascular or nervous constitution of the part, similar to that which is observed on the subsidence of inflammation on the surface of the body. Itching is there a familiar precursor of recovery. The best remedy for it, as a symptom, appears to be purging and patience.

A little sticking, or a slight intumescence and redness of the orifice, not unfrequently remains after all discharge has disappeared. The patient is not safe. The slightest excess, exertion, or discontinuance of remedies, may be followed by return of the discharge.

The patient should never be considered cured till a fortnight has elapsed after every symptom has vanished. It is common for discharge to return after an absence of a week or ten days. I have seen the interval of apparent cure even longer than this. I invariably direct the patient to continue the means he has been using for three weeks after the cessation of the discharge, and not to return to wine, or beer, or venereal intercourse, for a longer period than that.

A patient not unfrequently inquires when he may venture to marry. I will state a case. A gentleman was under my care in September with acute gonorrhœa. The cure was apparently effected in a fortnight or three weeks, but slight sticking of the orifice remained for a week or two more. This patient was to have been married in November. I recommended him to wait till December. He did so, and neither his wife nor himself have experienced the slightest discharge. A gentleman is now under my care in whom the discharge has stopped for ten days. Supposing that it does not reappear, I have advised him to postpone the matrimonial connexion till February or March. This may be looked upon as over-prudent. A surgeon in the country recommended a patient, under circumstances of this kind, to drink much wine and have connexion often. This is over-rash. The fact is, that I lately saw a case in which the discharge had been absent for a month, and was re-induced by connexion with a woman perfectly clean. — *Med. Chir. Rev.*

HOMICIDAL MONOMANIA.

A paper, entitled *Medico-legal Considerations on Monomania*, by M. Marc, is full of interest even for the general reader. It abounds with illustrations, derived from all quarters, and is well calculated to extend the reputation even of the very distinguished author. We observe among the numerous anecdotes in this article the following, which M. Marc says he procured while considering the celebrated case of Harriet Cornier. 'M. R., a chemist, endowed with poetical genius, and of a disposition naturally gentle and sociable, voluntarily claimed admission into a madhouse in the faubourg St Antoine. He was tormented with a desire to commit homicide: he frequently threw himself at the foot of the altar, and implored the Almighty to deliver him from such a horid propensity. He could give no account of the origin of his mental disorder. When he felt the accession of the fatal desire, he was in the habit of running to the head of the establishment, and requesting to have his thumbs tied together with a ribbon. Slight as the ligature might be, it sufficed to calm the unhappy R.; though, in the end, he made a desperate attempt upon the life of one of his keepers, and perished in a paroxysm of fury.' M. R. it seems, left behind him a series of letters, in which he endeavored to describe his internal sensations. They served to shew that the desire of homicide by which he was actuated was not founded upon any motive, upon any reasoning, but simply on a species of instinct. The letters themselves, which, M. Marc says, were highly curious, were submitted to Dr Gall, and, it is to be regretted, are no longer forthcoming.

Of this sort of homicidal monomania, our own country, unfortunately, affords many examples; and the reader will not fail to remember an alarmingly serious number of cases of the kind which have latterly been recorded in the public papers.

The views of M. Marc on the subject are clear and distinctive. We must, he thinks, admit the existence of two kinds of monomania; the one, that which operates by a kind of instinct; and the other, where reason, however perverted, predominates. The former leads the monomaniac into involuntary acts (the will being impaired); while the latter gives rise to actions resulting from an association of ideas.

Instinctive monomania is in general more difficult to be attested medico-legally than reasoning monomania. In the latter it is seldom that the patient seeks to deny or to disguise the action which he has committed, even where he may regret it. Not so with actions resulting from an irresistible instinct, which is usually found connected with a morbid state of the system. Reason may in this case preserve all its activity; it may abhor the action which instinct insists upon, yet be unable to resist it; nay, the reason is sometimes forced to become an accessary, by suggesting the means of accomplishing the object. Once the instinct has reached its highest point, so as to render the act inevitable, reasoning may, in fact, as in reasoning monomania, furnish all the combinations which characterize crime — intention, object, preparation, cunning — and, the deed being done, declining the responsibility. With all this, the symptoms of a disordered state of body are frequently so slight as to escape even the closest observer. If we add, that the accomplishment of the object appears in many cases to be a sort of crisis, followed by a rapid recovery, it will be allowed that there are circumstances connected with the case which require much consideration.

In illustration of these two species of monomania, M. Marc gives two cases, published by Dr Mende in Henke's Annals. The first is briefly this: Catherine Olhaven was born of poor parents, living in a country village: she was weaned when six weeks old, in consequence of an attack of illness by which her mother suffered, and in which one of the symptoms was a desire to kill her child. This she proposed to accomplish by opening a place among the feathers of the bed, in which she might at once smother and conceal the infant; but her design was perceived, and immediately after a critical fever ensued, which lasted for some weeks. On her recovery, the mother could remember nothing of what had happened, and never, during the rest of her life, had a similar return of mental disorder. The child Catherine meantime grew up, and never remembered to have had any illness, except when laboring under small-pox: her sister, indeed, said that she had worms. Her menses appeared late, but not irregularly. At the age of thirty-two she bore a child, had an attack of epilepsy, but with no apparent bad consequences, and in six weeks after went out as a nurse in the family of a professor at Greifswald. Here she continued to suckle a child for about seven or eight months, when her menses reappeared, and her milk became scanty, so that the nursling began to suffer. This produced anxiety and illness; but there was a restoration subsequently in some degree. A short time after a remarkable circumstance occurred: Catherine, one evening, while in the nursery with the child which was under her care, saw a knife on the table, and was immediately seized with a horrible desire to commit murder. She afterwards confessed that at the moment she felt a particular sensation in the stomach, and a heat in the head. She thought she heard herself commanded to cut the infant's throat: she shuddered, and fled into the kitchen with the knife in her hand. She begged one of the servants not to leave her, as she was filled with horrid thoughts. On returning to the nursery, the instinct two or three times returned almost irresistibly; and she was on the point of doing the murder, when interrupted by the entrance of some of the family. She was watched, and treated with cooling medicines: in a few days she recovered, but not without several recurrences of the murderous instinct of which she was perfectly sensible, though unable to control her will.

In the second case, a lady, 43 years of age, the mother of six children, all her life enjoying good health, with perhaps little more to complain of than a headache occasionally about the time of menstruation, was one day, while apparently in the best humor, and occupied with needlework, seized with a paroxysm. She rose from her seat, screamed out that she would drown herself, and immediately ran to the *fossé* of the town, and plunged in. She was taken out immediately, but not before she had been rendered insensible. Proper means were adopted to restore her; but three days elapsed before she returned to her right reason. She then wept abundantly, and was impressed with an obscure remembrance of what had occurred. No similar accident happened to her afterwards, though she lived for several years.

Both these examples are important, as demonstrating very clearly the nature of instinctive monomania: in the first, the train of circumstances was gradual, and could in some measure be followed; but in the second, it was sudden, and perfectly unexpected. There was, besides, something hereditary in the first case; while in both, there was reason to suspect the condition of the nervous system. Suppose that, in the former case, the bodily disorder was less traceable, and that no fortunate accident had interfered to prevent the commission of the crime to which the patient was so strongly impelled, what would have been the judicial decision ? No doubt, as opinions are ordinarily formed on such cases, it would have been maintained that the woman, not having shewn any symptoms of being on any former occasions deranged, as she had not been since, the deed must have been *voluntary*, and she must be held *guilty*.

To the subject of incendiary monomania, M. Marc devotes a large portion of his paper. All his instances are curious, and selected with much industry from native and foreign (particularly the German) annals of crime. The tendency of the author's reasonings is marked with a humane as well as an enlightened spirit : his views are specially directed to the means of improving the criminal code; and legislators of all countries, we think, might avail themselves with much advantage of the able hints which are here supplied. — *Annals d'Hygiène.*

THE LEECH FISHERY.

If ever you pass through La Brenne, you will see a man, pale, and straight haired, with a woollen cap on his head, and his legs and arms naked ; he walks along the borders of a marsh, among the spots left dry by the surrounding waters, but particularly wherever the vegetation seems to preserve the subjacent soil undisturbed ; this man is a leech-fisher. To see him from a distance, — his woe-begone aspect — his hollow eyes — his livid lips — his singular gestures, — you would take him for a patient who had left his sick bed in a fit of delirium. If you observe him every now and then raising his legs, and examining them one after the other, you might suppose him a fool ; but he is an intelligent leech-fisher. The leeches attach themselves to his legs and feet as he moves among their haunts ; he feels their presence from their bite, and gathers them as they cluster about the roots of the bulrushes and sea-weeds, or beneath the stones covered with green and gluey moss. Some repose on the mud, while others swim about — but so slowly, that they are easily gathered with the hand. In a favorable season it is possible, in the course of three or four hours, to stow ten or twelve dozen of them in the little bag which the gatherer carries on his shoulder. Sometimes you will see the leech-fisher armed with a kind of spear or harpoon : with this he deposits pieces of decayed animal matter in places frequented by the leeches ; they soon gather round the prey, and are presently themselves gathered into a little vessel half-full of water. Such is the leech-fishery in spring.

In summer, the leech retires into deeper water; and the fishers have then to strip themselves naked and walk immersed up to the chin. Some of them have little rafts to go upon; these rafts are made of twigs and rushes, and it is no easy matter to propel them among the weeds and aquatic plants. At this season, too, the supply in the pools is scanty; the fisher can only take the few that swim within his reach, or those that get entangled in the structure of his raft.

It is a horrid trade, in whatever way it is carried on. The leech-gatherer is constantly more or less in the water, breathing fog and mist and fetid odors from the marsh; he is often attacked with ague, catarrhs, and rheumatism. Some indulge in strong liquors, to keep off the noxious influence, but they pay for it in the end by disorders of other kinds. But with all its forbidden peculiarities, the leech-fishery gives employment to many hands; if it be pernicious, it is also lucrative. Besides supplying all the neighboring *pharmaciens*, great quantities are exported, and there are regular traders engaged for the purpose. Henri Chartier is one of those persons; and an important personage he is when he comes to Meobecq, or its vicinity; his arrival makes quite a fête — all are eager to greet him.

Among the interesting particulars which I gathered in La Brenne relative to the leech trade, I may mention the following: — One of the traders — what with his own fishing and that of his children, and what with his acquisitions from the carriers, who sell quantities *secondhand* — was enabled to hoard up 17,500 leeches in the course of a few months; he kept them deposited in a place where, in one night, they all became frozen *en masse*. But the frost does not immediately kill them; they may generally be thawed into life again. They easily, indeed, bear very hard usage. I am told by one of the carriers, that he can pack them as closely as he pleases in the moist sack which he ties behind his saddle; and sometimes he stows his cloak and boots on top of the sack. The trader buys his leeches *pêle mêle* big and little, green and black — all the same.; but he afterwards sorts them for the market. Those are generally accounted the best which are of a green ground, with yellow stripes along the body. — *Gazette des Hôpitaux.*

LUMBAR ABSCESS CURED BY INCISION BARK AND SODA, AND SODAIC PURGES.

John Style, ætat. 22, a helper in livery stables, came in 17th September, 1833, under Sir Anthony Carlisle, with a supposed lumbar abscess. He is of a leucophlegmatic temperament, of moderate stature, and thin. For six months he has felt a gradually-increasing disinclination and inability to work, with general uneasiness. In walking he experienced pain in his knees. Four months ago, dull heavy pains occurred in his back, constant, but varying in severity, and most acute when recumbent in bed. Two months since a swelling appeared on the right side of the loins, smooth, uniform, and hemispherical. The skin is not discolored. The tumor continued small till ten days ago, when, after a ride to Dover, it began rapidly to grow in size. At the same time his general debility increased. His appetite is now greater than usual. He sleeps well; he has not much pain; tongue clean; bowels of a costive habit. Pulse 76, small and feeble.

20. The tumor is large and rather prominent and oval, situated over the right sacro-lumbalis in the loin. Fluctuation is evident to the fingers. Impulse of coughing very plain in the tumor, especially over the last rib. He complains of soreness when the ribs are pressed upon, but of none when the vertebræ are struck. He has slight lateral curvature of spine.

21. Sir Anthony Carlisle considers the abscess is not in a fit state to be opened, and orders soda, in free and frequent doses, to counteract the 'peccant acidity' of the patient's constitution.

28. Tumor much larger, but not yet considered by Sir Anthony and Mr White fit to be opened. The soda is continued; and, according to Mr White's recommendation, a *Cummin seed Plaster* is applied over the tumor.

October 10. The abscess has been opened by Sir Anthony, by a plain incision; the pus is laudable, and the extent of the abscess does not appear to be very great. Bark and soda are given twice a day; and the aperient *Sack*, described in a former Lancet, is occasionally administered.

Nov. 16. The quantity of pus gradually diminished; wound is now nearly closed. The man's health and appetite very good, having friends in the country, residing near the sea-side, and in good circumstances, he is permitted to visit them, and is accordingly noted as discharged. The cummin-seed plaster was intended as a repellant, but it produced no appreciable effect, merely irritating the skin and inconveniencing the patient.

Lancet.

THE LATE BARON BOYER.

Alexis Boyer was born on the first of March, 1757, at Uzerches, in the Limousin. His parents were in very humble circumstances — sufficiently so, at least, to afford a strong contrast between an origin so plain and a career so distinguished; and it would no doubt be highly interesting to trace the particulars of the early life of one who had to contend with difficulties like those which must have lain in his path, and which he so successfully overcame. But unfortunately, M. Boyer was not fond of speaking of himself, and we are left to gather the history of his life from the series of his labors.

It is certain that he was not originally destined for the medical profession; he passed the first years of his youth at the business of a notary. We knew not the motives of the change, but we find him presently apprenticed to a country surgeon. In no long time he came to Paris, greedy for science, but very light in his purse; when he arrived in the capital he had no more than six louis-d'ors in the world, and he was nineteen years of age.

Desault was at this time laying the foundation of his subsequent fame, by his much-admired courses of anatomy. Boyer was one of his most diligent pupils; and the teacher, who was a man of discernment, chose him to assist in the business of the lecture-room, as he afterwards made choice of Bichât to prepare his clinical lectures. At the same time Boyer attended also the College of Surgery; he was an *élève* of the practical school, and carried off many prizes by the Concours. He, with a few others of his standing, was allotted a special place in the theatre during the courses; but these selected pupils were obliged to assist, and to be always ready in case a question was put to them. One day, as Louis was lecturing on physiology, Boyer, who had often heard this course before, and had it almost by heart, was listlessly looking about him, with his eyes directed to any place rather than to the chair. 'Sir,' said Louis to him suddenly, 'what have I been saying?' Boyer, taken by surprise, had scarcely heard the last words; but guessing at them, he repeated not only what the professor had then just said, but a good deal of what was to follow. 'I perceive,' said Louis with a smile, 'that the gentleman is a prophet; he divines what I have to say!'

Eleven years soon passed over in this way. Boyer was thirty, and he was appointed by Concours *Chirurgien gagnant maîtrise* to La Charité. He now opened his own courses of anatomy and physiology, and began to amass the materials of his *Traité d'Anatomie.* Nor did he neglect surgery. He wrote, for the last prize offered by the Academy, a memoir 'On the best form of needles for the reunion of wounds, and the ligature of vessels;' but the Academy was broken up before the prize was adjudged: the paper has been published in the Transactions of the Society of Emulation. He was also a contributor to the journals of Fourcroy and Desault; and among the articles from his pen about this time were, the memoir on Amputation of the Penis, on a New Method of Introducing the Œsophagean sound, &c.

The revolution, which produced such sweeping changes in all the old institutions of France, did not pass by Boyer without altering in some degree his circumstances. The place he held in La Charité was abolished; La Charité itself became L'Unité; and Boyer, instead of his former post, had now only the title of *Chirurgien-adjoint;* but upon the creation of the Ecoel de Santé he was appointed conjoint professor of operative medicine, and subsequently obtained the chair of *Clincque externe.*

About this period (1797-99) was published his *Traité d'Anatomie*, in four volumes, a work which reached its fourth edition in 1820. Circumstances were now favorable for the progress of education; the courses and clinical lectures of the school were attended by large and studious classes; but there was still wanting for those practitioners who had gone into the world the means of keeping up the progress of their acquirements through the only mode suited for the purpose — professional journals. The revolution, which had done good service to the political press, had struck a mortal blow on the medical periodicals. Desault's journal died with him; Fourcroy's no longer appeared; and the old Journal de Médecine, begun in 1754, had perished in year 2 of the new æra. It was revived, however, under the auspices of Corvisart, Leroux, and Boyer; and this was the journal which, in 1818, changed its title to that of the *Nouveau Journal de Medecine*, and is at present known by the appellation of the *Archives Générales*. Boyer did not do much for it, except at the commencement; he was soon too much occupied with his professional avocations, and particularly with his lectures on the Diseases of the Bones, which now form volumes iii. and iv. of his *Traité des Maladies Chirurgicales.*

Boyer was surgeon to the First Consul; he was afterwards appointed first surgeon to the Emperor, and accompanied his illustrious patient in the campaigns of the first war of Poland, which were terminated by the treaty of Tilsit. This was the only occasion on which the Professor served from home — if we except his journey into Spain, whither he went to operate on the Duke of Albufera for an anal fistula. It was probable after the Polish campaign that he was created a Baron of the Empire; but he never adopted the title, and only smiled when the patients in the hospital wished to pay their court to him by greeting him with it.

At the restoration he was appointed surgeon to the king; and was so much in favor, that he was consulted confidentially by the government in 1817, regarding a project of re-organizing the medical profession in France. The paper which he drew up on the subject was recently laid before the Academy by M. Double. Besides several articles contributed to the Dictionnaire des Sciences Médicales, M. Boyer now found leisure to compose his

Traité des Maladies Chirurgicales, a work which though running to eleven volumes, has had such success as to secure the sale of four editions.

In the year 1825, upon the death of Deschamps, M. Boyer succeeded both to the chief surgeoncy of La Charité and to the vacant chair in the Institute, — which may be considered as the highest point attainable by the ambition of a medical man in France. He was at this time in his 68th year, a good deal broken up by the labors of his preceding life. He latterly lost much of that vivacity which had been peculiar to him: he grew corpulent, and never went abroad except in his carriage — a circumstance which contributed visibly to enfeeble him in the progress of the disorder of which he died. This was nephritis, which racked him occasionally with pain. During one of these violent paroxysms, no less than 90 leeches were applied to him at his own request; but he was unable to sustain so great a loss of blood: he died in the course of two days, on the 18th of November, 1833, in a state of general collapse. His last wishes were impressed with that modesty and love of simplicity which characterized his whole life. He requested that no discourse should be pronounced over his tomb by the deputations of those learned bodies of which he was a member: and his desire was religiously complied with.

M. Boyer has left one son, M. P. Boyer, an *agrégé* of the faculty, and surgeon to the Hôpital des Vénériens; and a daughter, who is the wife of M. Roux, of La Charité. — *Med. Gaz.*

PUERPERAL CONVULSIONS.

The pathological conditions which prevail in the system, when under the influence of this disease, are, a high state of nervous excitement, and a marked determination of blood to the brain. This latter may be in part the result of general plethora, or of that vascular excitement which is more or less attendant on pregnancy; but each of these conditions is mainly produced by irritation primarily seated in the abdominal viscera, and in the uterine system more particularly. The indication of cure will, it is obvious, be that of removing these morbid conditions; and experience has sufficiently attested, that the remedial agents best adapted to fulfil this indication, are, copious venesection, free purgation, cold applications to the head, a blister to the nape of the neck, and the use of the warm-bath. The exhibition of opium, musk, and camphor, is of more doubtful expediency, and should not be resorted to till the remedies first enumerated have been fairly brought into operation. The fortunate result of these cases I believe to have been in a great measure attributable, at least as far as human means are concerned, to the circumstance of my having persisted in administering with my own hands most of the remedies which were employed. There are, comparatively, few nurses, especially among those usually attending on patients belonging to the lower grades of society, who have tact and resolution to overcome the difficulty which presents itself in cases like these, to the introduction of medicines into the stomach. Disheartened by the apparent hopelessness of the case, they are content to leave the patient to her fate, and, in excuse for their non-compliance with the injunctions laid upon them, they will coolly tell one, in the parlance common on such occasions, 'It is a pity to terrify the poor cratur any longer.' I would earnestly recommend to my younger brethren in the profession, to persevere notwithstanding the discouraging condition of the patient, in bringing to bear every means which are calculated to restore the unhappy sufferer ; and they may be assured that in the majority of instances the issue will be favorable. Nothing could, to all appearance, be more desperate than the condition of three of the patients whose cases I have described, and yet they recovered, and are now living in the enjoyment of very tolerable health. The expedient which I have found most availing in those cases in which the patient has made much resistance to the administration of medicine, has been to introduce the bowl of a spoon between the teeth, and far enough into the mouth to keep down the motions of the tongue. Along the hollow of this domestic implement, medicaments, either in the form of powder or liquid, or even pills, may be conveyed into the stomach.

The history of these cases will, I think, be allowed to throw some light on a point in the treatment of peurperal convulsions, concerning which a diversity of opinion has been entertained. I mean the question of forcible delivery, or of using any means to expedite the expulsion of the contents of the uterus. It will be seen that in two of my patients the convulsions were subdued before labor came on, and that in the other two the seizure was subsequent to delivery. Instructed by my own experience, and fortified by the authority of such writers as Denman, Blundell, and Gooch, I should say with the latter — 'Take care of the convulsions, and let the uterus take care of itself.' —*Dr Symonds.*

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"Itaque ad experientiæ et scientiæ istius cui inservio normam, mea omnia exigi et probari velim."—WILLIS.

ART. I. — REVIEWS.

A Treatise on Pathology and Therapeutics. By JOHN ESTEN COOKE, M. D.; Professor of the Theory and Practice of Medicine in Transylvania University.

Human Physiology, illustrated by numerous Engravings. By ROBLEY DUNGLISON, M. D.; Professor of Physiology, Pathology, &c, in the University of Virginia, (now of Maryland,) Member of the American Philosophical Society, &c.

Physiologico-Pathological Observations on Follicular Gastro-Enteritis. By E. GEDDINGS, M. D.; Professor of Anatomy and Physiology in the University of Maryland, &c.— Baltimore Medical and Surgical Journal and Review.

The Principles of Medicine, founded on the Structure and Functions of the Animal Organism. By SAMUEL JACKSON, M. D.; Assistant to the Professor of the Institutes and Practice of Medicine, and Clinical Medicine, in the University of Pennsylvania, &c, &c.

IT is not our intention to inquire very earnestly how far the adage, that 'words are things,' may be true. The inquest, like many others that theorists indulge in, might be more curious than useful. It is sufficient for our present purpose to know, that the sentiment thus expressed is so far true, as to render language an instrument of great power, for evil as well as good, and therefore of great importance.

Words skilfully selected and arranged, form the drapery of our thoughts, as pieces of cloth and other fabrics, fastened together, according to their shape and fitness, furnish clothing to our persons. If, then, to secure to the latter every attainable degree of usefulness and elegance, constitutes no inconsiderable portion of the business of civilized man, the claim of the former to some share in the concerns of life will scarcely be denied. And if, again, a few leading manufacturers and artists, who might produce articles of dress, defective alike in tasteful and sound qualities, and attempt to give them fashion and currency, would be deemed reprehensible, and would lose their influence, and perhaps their business, ought not a similar fate to await those, who may be guilty of similar abuses, in relation to language? Does not each fault call alike for a prompt and vigorous effort to correct it, and avert the mischief it must necessarily occasion? And should not all persons, qualified to do so, co-operate actively in the measure themselves, or give countenance and encouragement to those who do? To these questions, a negative reply is hardly to be expected. The reason of their being proposed, will appear hereafter.

We know that it is neither common, nor, in most cases, necessary for reviewers to dwell, to any great extent, on the style and manner of scientific and professional writings. We even admit that, in general, the practice would be improper. The reason is plain. The object of the authors of such works is to instruct, not to please or amuse. They address themselves to the understanding and judgment of their readers, not to their taste or fancy. Their subjects, moreover, are so interesting and important, in themselves, as to require no ornament to render them acceptable to the lovers of knowledge. Provided, therefore, they have correct views of the department of literature, to which their productions belong, their language is plain, simple, and unpretending, free alike from decoration, and all other marks of ambitious effort.* Attentive only to matter, arrangement, and soundness of principle, they rarely attempt to dazzle or strike, by any studied form of expression. True, they are peculiarly circumspect in their phraseology; but they select their words, on account of the precision and fitness of their meaning, rather than for their elegance and learnedness, or for the harmony and agreeableness of their sound. In a particular manner, they never make choice of them, on account of their length, novelty, or marked peculiarity. Such qualities act on them as reasons to reject, rather than to adopt. Modest as well as uniform in their phraseology, they exclude from their composition, with equal care, the *verba sesquipedalia*, and the *purpurei panni* of the poet and satirist. The qualities of style, which such writers are chiefly solicitous to attain, and which are most useful and becoming in them, are brevity, purity, precision, and perspicuity; to which, if they can add strength, they are satisfied, leaving verbal pomp and glitter to writers in other departments of literature. They have no ambition to be accounted *eloquent*, so far as that term may be construed, as it too generally is, into a lavish effusion of high-sounding words, often employed without a due regard to their meaning. On the style and manner of such authors, studied criticism would be out of place. A passing notice of them, commendatory, or otherwise, according to merit, is all that is admissible.

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* Much praise has been bestowed on the style of Dugald Stewart; but, in our opinion, very improperly. It is too rhetorical, and, therefore, much better fitted for some form of popular literature, than for the grave subject of which the writer treats. For the same reason the style of Dr Thomas Brown is faulty, though in a less degree than that of Stewart. Dr Brown, however, did not live to prepare his works for the press, else he would, no doubt, have pruned the language of them of much of its luxuriance; for he

But when, as occasionally happens, cases not only different but opposite occur, different measures should be adopted to meet them. When professional and scientific writers, forgetful of the department of letters in which they are engaged, or not having a correct knowledge of what specially belongs to it, express themselves in language altogether unsuitable; when, instead of a style pure, precise, and simple, perspicuous and unaffected, they indulge in one possessing none of these qualities, but those of a contrary character — one that is involved, without precision or accuracy, obscure, ambitious, encumbered with a redundance of unusual and far-fetched words, and deformed and vitiated by pompous epithets and foreign modes

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was a scholar of fine taste, no less than a philosopher of profound judgment — in all respects greatly superior to his predecessor. Indeed the time will soon arrive, if it has not arrived already, when the works of Stewart will be looked into only as elegant compositions, abounding in error, and totally defective in soundness and depth. As writers on mental philosophy, the styles of Locke and Reid are infinitely better than those of the other two metaphysicians we have named. They are, moreover, much abler writers than Stewart, who was as wanting in originality as he was in profundity.

of expression — when faults like these, already abundant, threaten to become more so, criticism on style should be no longer restrained, but permitted, and openly encouraged to condemn. Its silence, under such circumstances, would be a neglect of duty. Literature, when so deeply diseased, needs a remedy; and, whether the treatment required be lenitive or severe, it should be faithfully administered. If venerable senators, or reverend divines, so far forget what is due to their rank and calling as to play harlequin in dress, or appear publicly in caps and bells, they must lay their accounts to be censured by the grave, laughed at by the merry, and mocked by the satirical. In like manner, if writers, who profess to give instruction in science, whether professional or general, instead of using sober and dignified language, corresponding to their subject and their own pretensions, not only clothe their thoughts in the style of the novelist or the romancer, but form or adopt a mongrel dialect, calculated to corrupt and unsettle their native tongue, they ought not to be suffered to escape unrebuked. And if, at the same time, those writers stand in the capacity of teachers of youth, the case derives from that circumstance much additional strength: the evil is the greater, and calls the more pressingly for a vigorous corrective.

The foregoing remarks, the correctness of which will scarcely be questioned, though general in their character, are particular in their bearing and immediate cause. They have been elicited by the faultiness of the styles of two of the works, whose titles constitute the heading of this article. We allude to those of Professor Geddings and Dr Jackson. The styles of the other two, are intended to be used as standards of comparison; and though they differ widely from one another, each is exceedingly good of its kind. That we may not be suspected of injustice or partiality, in our award of either censure or praise, we shall lay before our readers such extracts from the productions to be examined and compared, as may enable them to form their own opinions.

We have said that the style of scientific and professional writings admits of no ornament, but should be simple and concise, unaffected and perspicuous. In illustration of this, and to exemplify the strictness of its conformity to the rule, we give the following extract from Professor Cooke's 'Treatise on Pathology and Therapeutics.' The passages are not selected, because they are in any way superior to others, the style of the book being remarkably uniform. Nor does it concern us, at present, whether the sentiments expressed in them are correct or otherwise, our attention being directed exclusively to the language.

'1. Mankind have ever shown a strong inclination to discover the causes of natural phenomena; and from the remotest ages their ingenuity has been exercised in the investigation of them. This propensity is not confined to the intelligent, and the enlightened; even the stupid and the ignorant have their desire to know, and their theories to explain the secrets of nature.

'2. The inquiry into the origin and nature of the various forms of disease which afflict the human race, is especially interesting; seeing that the natural propensity is stimulated by the importance of the subject to our well-being, and to life itself. Physicians who are continually called on to relieve the afflicted, are especially interested in ascertaining the causes of the morbid appearances, and particularly the proximate cause, "*quæ presens morbum facit, sublata tollit, mutata mutat.*"

'3. They have accordingly shown, from the earliest times of which we have any record, the deep interest they feel in the subject. By their unwearied attention, and by a multitude of observations, they had early made considerable discoveries respecting those causes which remotely influence the body in such a manner that disease is eventually produced; they had marked the phenomena that occur, and had laid down with very considerable precision, those which indicate a favorable or an unfavorable termination; and they had acquired a knowledge of many articles, vegetable and mineral, of great efficacy in the treatment of diseases.' — Vol. I. pp. 9,10.

Words more simple, familiar and natural, expressions more correct and definite, and a general style and manner more concise, perspicuous, and unaffected, than this extract exhibits, can scarcely be imagined. Nor can anything be better suited to the object in view — the conveyance of elementary instruction, in terms not to be misunderstood. We do not call the style elegant; nor was elegance the writer's aim. But we do call it chaste, classical and pleasing. No composition is more suitably characterized, by the phrase '*simplex munditüs.*' There is not perhaps a word in it, to which anything short of hypercriticism can except; and it would be difficult to improve a single expression, to make it, in a special manner, more definite and intelligible. The language, moreover, as well as the manner in which it is used, is pure English. Though not inclined to pronounce the writing perfect, we are equally unwilling to say that it is faulty, or to show how it may be improved. One thing is certain, scholars of taste and judgment will be the last to censure it. If any condemn it, the reason must be looked for, not in it, but in themselves. An important advantage of such a style, in books of science, is, that the language never so far occupies the mind of the reader, by any of its qualities, as to abstract his attention from the substance of the work. It neither dazzles by its brilliancy, perplexes by its intricacy, blinds by its obscurity, nor deceives by its ambiguity. Like a perfectly transparent and unrefracting body, it gives a free and direct passage to every ray of light that falls on it; or rather, like a faithful mirror, it exhibits a correct image of the matter it represents. Might we resort to another figure, without committing ourselves the fault we are blaming in others, we would further say, that the fruit it is designed to present, is neither concealed nor damaged by a superabundance of leaves. No man, in writing, forgets himself more entirely, fastens on his subject more closely and exclusively, or more earnestly endeavors to develop it, and exhibit it in its greatest simplicity, than Professor Cooke. To the truth of these remarks, his composition amply testifies.

The style of Professor Dunglison is materially different — more elaborate, somewhat more stately; less concise, and perhaps we may add, of a higher polish. Still, it is, in general, easy and simple, perspicious and unaffected. Though it is the studied production of a scholar, that scholar, in composing and finishing it, did not either forget or neglect the maxim, '*artis est celare artem.*' The following passages will serve as a specimen of the whole work.

'Having studied the mode, in which air is received into, and expelled from, the lungs, we have now to inquire into the changes produced on the venous blood — containing the products of the various absorptions — in the lungs, as well as on the air itself. These changes constitute the function of *sanguification*, *hæmatosis*, *respiration*, properly so called, *arterialization* of the blood, *aeration*, &c.' — Vol. II. p. 94.

Though we did not select this paragraph, on account of any faultiness in its style, but took it, because it first presented itself, when the volume was opened, we have perceived, in transcribing it, one expression of doubtful accuracy, which a sentiment of justice induces us to notice.

'These changes' ('on the venous blood,' and 'on the air') says the Professor, 'constitute the function, &c.' Is it correct to say that the 'changes' here referred to, or indeed *any changes*, '*constitute* a function?' Are they not the *effects* of a function, rather than the elements which compose it? The function here alluded to, consists in a specific form of vital organic action, of which the changes on the blood and the air, are the product. The tendency of our author's language is to identify *cause* and *effect;* a principle which no one will advocate. Nor do we deem it correct, to represent '*sanguification*' and 'respiration,' as the same function. Far from it. They are not even performed by the same organ. 'Respiration,' which consists in the admission and ejection of air, is the result of muscular action, enlarging and diminishing the cavity of the thorax, and of the elasticity or springiness of the atmosphere, by which it tends to the filling up of a vacuum. The excitement of the muscles to action excepted, the whole process is mechanical. But 'sanguification' arises from a far different cause. The muscles of respiration have no *immediate* agency in producing it. It is the product of the action of the lungs on the venous blood and the atmospherical air that enter them. We say 'the *action of the lungs,*' not merely *the action of the air on the blood,* an hypothesis for which many contend. Did the atmosphere and the blood come into contact, in any other place but the lungs, '*arterialization*' would not be effected. That 'respiration' and 'arterialization' are not the same, appears conclusively from the *lividness* that marks cholera, the rigor of intermitting fever, and other forms of congestive disease. In these complaints, the hue of the skin is altered, because, owing to the deranged condition of the lungs, the blood is not *arterialized,* though respiration continues. Respiration is indeed *essential* to sanguification. But so is it to every other function of the body, because it is essential to life itself, the source of them all. It is not, however, *identified* with every other function. Again, *respiration* can be carried on, for a short time, in an atmosphere where there is no oxygen; but in that case the blood is not *arterialized.* Facts of notoriety justify us in adding, that, as far as the atmosphere is concerned, respiration and arterialization depend on different qualities; the former on a *mechanical* quality, the latter on one supposed by most physiologists to be *chemical.* But to proceed with our extract.

'With the ancients, this process [respiration] was but little understood. It was generally believed to act as a means of cooling the body ; and, in modern times, Helvetius revived the notion, attributing to it the office of refrigerating the blood, heated by its passage through the long and narrow channels of the circulation, by the cool air constantly received into the lungs. The reasons, that led to this opinion, were: — that the air, which enters the lungs, in a cool state, issues warm and that the pulmonary veins, which convey the blood from the lungs, are of less dimension than the pulmonary artery, which conveys it to them. From this it was concluded, that the blood, during its progress through the lungs, must lose somewhat of its volume or be condensed by refrigeration. The warmth of the expired air can, however, be readily accounted for; while it is not true, that the pulmonary veins are smaller than the pulmonary artery. The reverse is, indeed, the fact; and it is equally obvious, that the doctrine of Helvetius does not explain how we can exist in a temperature superior to our own; this ought, on his hypothesis, to be impracticable.' — *ibid.*

'Another theory, which prevailed for sometime, was: — that, during inspiration, the vessels of the lungs were unfolded, as it were; and that thus the passage of the blood, from the right side of the heart to the left, through the lungs, is facilitated. Its progress was, indeed, conceived to be impossible during expiration, in consequence of the considerable flexures of the pulmonary vessels. The discovery of the circulation of the blood gave rise to this theory; and Haller attaches considerable importance to it, when taken in connexion with the changes effected upon the blood in the vessels. It is inaccurate, however, to suppose that the circulation of the blood is interrupted, when respiration is arrested.'— Vol. II. pp. 94, 95.

The style of these extracts will be blamed, if at all, only by the censorious, and those who are not friendly to the writer. Though more obnoxious to criticism, than that of Professor Cooke, it is notwithstanding, the style of science, and is creditible to the scholarship and taste of its author. It is sound English, both in language and manner, and bears no marks of a misplaced and injudicious ambition to *dazzle* readers, instead of *instructing* them. The writer shows, that his mind is much more occupied with his subject, than with himself. Hence, he makes it his study, to present to his readers sound and valuable matter, rather than rare words, and startling conceits. As he aims at nothing beyond his reach, the march of his composition is calm and dignified, and its tone well sustained. It is marked by neither the struggle and bluster of over-exertion, nor the vacillation of fatigue. While it has a sufficiency of youthful freshness and elasticity, it has also the steadiness of confirmed strength. In style and manner, no less than in matter and thought, we repeat, that the work is creditable to its author, as well as to the medical literature of our country.

It would be gratifying to us to feel justified in bestowing equal commendation on the style and manner of the two productions we have yet to notice. But the reader will too soon perceive, that this is impossible, consistently with correctness of taste, and honesty of purpose.

The very title of Professor Geddings's paper is highly objectionable. '*Physiologico-Pathological Observations on Follicular Gastro-Enteritis!*' This is an actual burlesque on English, not to call it *a caricature of language!* Did we not know the Professor to be in earnest, and were not his effort throughout a serious one, we should be compelled to believe his intention to be, to travesty the heading of some article, or the title of some book, which he thought ridiculous. In bombast of words, neither 'Terrible Tractoration,' nor 'Homer Burlesqued' has anything comparable to the passage just quoted. And, compared with it, Swift's *intentionally ludicrous* title prefixed to the 'Tale of a Tub,' 'A Physico-mythological Dissertation on the different Sorts of Oratorial Machines,' is modest English. No matter who coined the individual words of the heading, our author, by adopting them, and linking them together, has made them his own, and rendered himself accountable for their genuineness and currency. And the hazard of their being condemned as counterfeits, is fearfully against him, or we mistake the taste and judgment of the profession. The simplicity and purity of our mother tongue should not be suffered to be sported with and violated, without *necessity* or *usefulness*. And, in the present case, there is neither. Professor Geddings could have expressed easily, and much more intelligibly in the customary language of medicine, every idea contained in his heading. And that he might have done it, in a manner far more creditable to his taste as a scholar, and his judgment as a philosopher and a man, cannot be denied. The phrase, steeped as it is in the very essence of affectation, can be intended for nothing else than a mere ostentatious parade of learning. Had the words AD CAPTANDUM been prefixed to it, they would not have rendered the design of it more obvious and certain, than it is without them. But the end aimed at, by it, will not be attained. Its failure is certain. None will be caught by it, but *the youthful, the illiterate*, and the *injudicious.* Men of an opposite cast will toss it from them, as very little better than the slang of charlatanry. And thus may the benefit that might be derived from perusing the article it is prefixed to, be lost. We had no sooner read it, than we had a vivid recollection of the title bestowed, by a celebrated empiric, on one of his stomachics : '*A mucilaginous decoction, to soothe the acid particles, and eliminate the acrimonious corpuscles, that corrode and gnaw the internal coats of the stomach!*' Had the Pseudo-Æsculapian, instead of the 'corroding and gnawing of the internal coats of the stomach,' spoken of the '*production of a pathological condition of the nutritive function, localized in the gastro-enteric dermoid tissue*,' his jargon would have been complete. The reader will perceive, as we pass along, our reasons for suggesting this improvement in diction.

We regret to add, that, though certainly not in all places so bad, the style of the production we are examining, is, in general, too much of the same character with that of the foregoing quotation. There is, in almost every page, especially where any discussion that may 'make a show' is attempted, an effort at a mode of expression by far too tumid and pompous for the occasion. Incongruous and badly sustained tropes and figures, moreover, and other gaudy rhetorical flourishes, are occasionally introduced, where the language should be plain, and the manner didactic. The writer does not seem to know, or, knowing, does not remember, that all such decorations are the work of feeling and passion, not of the understanding or the judgment. His most prevalent fault, however, (and it occurs in almost every paragraph) is a redundance of words — not of common ones, but often of the longest, most compound, and farthest-fetched, that our language affords, and such as writers of taste never employ, except of necessity, or for some other cogent reason. Yet there is cause to believe, that our author searches for them, with as much of eagerness to incorporate them in his composition, as classical writers use of care to exclude them. An extract or two from the paper before us, will prove the justness of these remarks.

'All *fevers*, therefore, adopting the ordinary *definitions* of the nosologists' — (' definitions,' in this place, is an improper word, and does not convey our author's meaning. His allusion, if we at all comprehend him, is to the *names*, not the '*definitions*' used by nosologists. But those two words are far from being synonymes. By the term '*fevers*' nosologists do not intend to *define* anything, but merely to give a name to certain forms of disease. The words, *paralysis, tetanus, epilepsy*, and *influenza* are not designed as 'definitions' of the diseases, which are thus denominated. They are used as names, and nothing more. Of most other complaints, the same is true. This is only one out of many instances we could adduce, where the Professor is exceedingly unfortunate in his use of familiar and important words. But looseness and inaccuracy in the employment of language have but one source — a corresponding looseness and inaccuracy of thought.) To proceed.

'All fevers, therefore, adopting the ordinary definitions of nosologists, are the result of the *superexcitation* of one or more of the *tissues or organs*, and as such *superexcitation*, when once developed, immediately impresses upon the part in which it occurs, all the *molecular modifications* which constitute inflammation, they may, without much impropriety, be said to be the *result or consequence* of *local phlegmasia*. All the other conditions which occur *antecedent* to the *development* and *localization* of the *superexcitation* in an organ, which possesses sufficient influence over the others to give rise to the outward manifestations, the assemblage of which *form* what is called a fever, are *mere preludes* or a *prodromos* of the disease itself.' * * * * * * * 'Whether the local *superexcitement* be the primary or secondary condition, it is the point to which our attention must be directed — it is the *focus* upon which the whole force of the disease concentrates itself, and from which its influence is *radiated* throughout the *organs* and *systems*, *disturbing* their functions, *implicating their structures*, and, if not controlled, *eventuating* in their destruction!' *Balt. Med. & Surg. Jour. & Rev. No. I. p.* 72.

Added to some bad grammar, the scholar will not fail to perceive that the diction of the whole of this extract is overstrained and inflated. It is the product of a dashing effort at what, in a spirit of derision, has been called *magniloquence*. In giving vent to the thoughts it contains, the writer must have been in an agony of desire and exertion to *strike* and *surprise*. Like the novelist or the dramatist, his object was *to produce effect*, rather than to convince or inform. Some of the most palpably exceptionable words and phrases are in italics. But the entire composition is exceptionable, because it has nothing of the style of science in it, and must therefore be regarded as an *error loci* in letters.

In page 74, a short paragraph ends thus: 'It certainly must be considered *bad philosophy*, (an expression wholly misapplied) to close our eyes against such evidence (previously given;) to regard the lesions as merely accidental, and instead of ascribing the symptoms to them, to refer them to some *inscrutable incomprehensible condition of the vital powers, shut out from our cognizance, and veiled from our reason.*' Another trap for admiration — unskilfully set, and badly baited — a leaning toward the *bathos!* The author proceeds:

'This is precisely what takes place in epidemic cholera. Of its *prodromos* we cannot, as hinted above, *know* anything, until we can *determine and analyze its cause*, (we *know* just as much of it as we do of the beginning of other epidemic or endemic complaints), 'ascertain the character of the first impression it makes upon the living organization; the points upon which this *impression impinges*,' (an *impression impinge!*) 'and the order of its propagation through the *mazes of the animal economy.* Of its effects, however, we can judge, so soon as they become manifested through the disturbance of the different functions. They then assume a *tangible form;* become *cognizable by our senses*, and he who is conversant with the healthy laws of the *organism*, cannot be at a loss to appreciate their character, and *translate them into a known and intelligible language.* When an individual has been brought under the influence of this cause, whatever may be its essence, the first visible phenomena developed by it are such as appertain *properly* and *peculiarly* to *superexcitation* and inflammation of the *gastro-intestinal mucous surfaces.* Its effects *localize themselves upon that tissue.*' &c, — pp. 74—5.

It is not easy to conceive of more palpable violations of the rules of composition, or of wider departures from the usages of good writers, than are found in these extracts. Nor is the style of thinking any better. It is exceedingly crude and unsatisfactory — destitute especially of precision and method. Compared with good writing, the passages resemble the scattering fire of raw militia-men, contrasted with the platoon work of disciplined troops. In truth, the composition is wanting alike in literature and logic. Once more.

Our author goes on, interlarding his composition very abundantly, with the following singular forms of expression :— '*tenderness or supersensitiveness of the muscles and articulations*' — '*general malaise of the locomotive apparatus*' — '*physiologico-pathological modifications of the organism*'

—'*a state of hyperæmia*' — '*irradiation of irritation, or superexcitement from the tissue or organ upon which it is first localized*' — '*the whole aggregate phenomena of what may be properly called the prodromons of the disease*' — '*sympathetic superexcitement of the buccal and lingual mucous membrane*' —*producing* '*a deposition of plastic lymph upon its surface;*' with dozens of others, equally tumid, tasteless, and affected, and not a few of them, to us, unintelligible.

These quotations need no comment from us. They are a comment on themselves; and, as such, they have that within them, which speaks with a force, far beyond what criticism could exert. Certainly no language of ours could equal it. When a literary performance pronounces on itself the verdict of 'guilty,' it is the confession of the culprit, that he is justly arraigned. Where conscience testifies, the evidence is conclusive, and the decision final. To the extracts, therefore, we refer, for matter in proof of the truth of our strictures.

Is any one ready to observe, that Professor Geddings, being a young man, our censure is too severe? The charge would be unjust. 'I must,' said Hamlet, speaking of his conduct toward his mother; 'I must be *cruel*, only to be kind.' If we have been severe on the Professor, it is *because* he is young, and can *easily improve*. His bad habits, as a writer, are not yet so stubborn that they will not bend, nor so deep-rooted, that they cannot be plucked up — at least, we presume so. And, having improved himself, by correcting his faults, of which we have but endeavored to render him sensible, we hope he has yet many years to live, to do credit to himself, service to his profession, and honor to his country. Were he 'an old man, four-score, and upwards,' to criticise his writings would avail but little. He would be past, not only the period of reform, but also that of doing, by his writings, either good or harm. But, being young, a popular teacher, and the editor of a journal, a spacious field is open to him; and the issue of his labors in it, will depend not a little on the style, in which he may communicate knowledge, whether orally or in writing. These are the grounds, on which we have ventured to *admonish* him gravely of his false taste; and of the injustice and injury he is doing by the indulgence of it, to himself no less than to the literature of his profession; nor, as respects their correctness are we unwilling to trust the decision, to his own calm and unbiassed judgment. Dispassionately he cannot blame us *now;* and, should he live but a single lustre (and we trust he will live many), he will yet thank us for what we have done — else we are greatly mistaken, in the estimate we have formed of him. His paper contains no small amount of useful matter; but its value is greatly diminished, by the faultiness of its style.

Respecting what is called the *severity* of criticism, we have yet another remark to offer. It consists in *truth alone.* In *false* criticism there is no severity, except as relates to its *author.* Every *unfounded* censure he passes, recoils on himself. He must prove the justness of every fault he imputes, by extracts from the work he animadverts on, else he stands *self-condemned.* But the testimony borne against an author, by his own work, cannot, as an element of a *critique* on that work, be too severe; or if it be, the author alone is culpable, for testifying so strongly against himself. He who makes the extracts, and proves, by them, the truth of his strictures, is free from blame. In truth, it is not to be denied, that the only *real severity* a critic can practise on an author, is by quotations from his works. By this rule we are willing to be judged, on the present occasion. If the extracts made, sustain our critical remarks, we are not blamable; if they do not, we are. If Prof. Geddings has written so faultily, that the verdict passed, by his paper on itself, is, 'guilty,' the *severity* of the decision is *his own* not *ours.* We but report his verdict to our readers. On these grounds we await, without dread, the judgment of the public. And for what we may have yet to say, in this article, we place our responsibility on the same foundation.

From Dr Jackson's 'Principles of Medicine,' a modern Zoilus might gather, with but little labor, an abundant harvest. There are many single pages of it, that might satisfy his cupidity, and few that would not copiously minister to it. As relates to style, the work is but little else than *an incorporation of faults.* Viewed as the production of a man, in the maturity of intellectual life, who has been a writer for many years, and by some thought an able one, it is a composition well calculated to excite surprise. It contains, in a singular state of mixture and confusion, almost every element of bad writing, not excepting a very *loose and inaccurate way of thinking*, which is indeed the chief source of all the others. For, as are the tenor and character of thought, so will be those of expression, the latter being only the representative of the former.

The Doctor's style, to say nothing of its involved condition, or of its ambiguousness and obscurity, is one of the most redundant we have ever examined. It groans under the weight of pleonasm and tautology. It possesses also what may be called a *reduplicated texture,* to an extent, that, within our knowledge, has no parallel. The author, we mean, reiterates his ideas, under different forms of expression, more frequently, and in a more unwarrantable degree, than any other writer we could name. This would seem to arise from one of two causes; an unbridled desire to show his command of words, or a consciousness that he has expressed himself defectively, on the first and second attempts, and a desire to remedy the failure, on the third and fourth ones. For he often reduplicates *three* times, and *four*, we think, occasionally. His style again is, in many instances, ambitious and inflated, in a degree rarely equalled, the conceptions being far too aspiring for the subject, and the words to express them long, pompous, and uncommon. His fancy, moreover, often takes wing, and flies off with his judgment. Nor are its flights, though wild and devious, either graceful or majestic. They exhibit nothing to delight, and but little to amuse. We wonder much that they continue to be indulged; and that some degree of good taste and common sense, in the author, does not suppress them; or that his friends do not influence him to that effect. In no other way could they show him more kindness, or confer on him a greater favor. To shield a man of sensibility from the sting of ridicule, is sometimes more desirable in itself, and more worthy of gratitude, than to protect him from bodily harm. We shall only add our confident belief, that, so inordinate is the Doctor's waste of words, that his volume, containing about 650 pages, might be reduced to 400, or less, of the same size, and in the same type, without the rejection of a single idea. A few extracts will show, that these remarks are neither unfounded, nor extravagant. On opening the book, without any design, as to subject or place, we quote from the page that first presents itself:

'CHAP. IV.

'*On the Function of Circulation, or the Distribution and Movement of the blood or Sanguine Nutritive Humor.*' p. 455.

Such is the heading of the chapter; and we doubt whether the English language contains a sentence (*except perhaps in the volume before us*) more redundant in words. It would be difficult to compose one more so, without rendering it unintelligible. We ask the reader to pause on it, count the number of words wasted in it, and then judge for himself. He will find the whole number to be *seventeen;* and a moment's reflection will show him, that the idea communicated by them, may be expressed much more clearly, and in better taste, by *six: On the Circulation of the Blood.* Or, *Of the Circulation of the Blood*, which we like better. This *substituted* heading would have been used by Haller, Cullen, Hunter, and Rush, and indeed by all writers, who prefer matter and thought to verbosity and sound. It is, moreover, so simple and perspicuous, that no one can mistake its meaning; while the meaning of our author's heading is so buried in words, that it is labor to find it. The contrast between them reminds us of an event that occurred, in a professional meeting of two physicians, perfectly known to us, one of them plain, but keen and sagacious, the other vain, pompous, and empty.

The latter being in attendance on a child, whose case was threatening, the former was called into consultation with him. Of the remedies agreed on, one was, that the patient's feet and legs should be bathed in warm salt water, — wiped dry, and briskly rubbed with a warm towel. The verbose gentleman being the family physician, the office of announcing the treatment was his. In the performance of it, he addressed the following harangue to the infant's mother.

'Madam, your physicians, after mature deliberation and advisement, think proper to prescribe and direct, that you prepare and make ready a tepid aqueous saline solution, immerse your babe's inferior extremities in it, and then freeing them from humidity, apply friction to them with a heated napkin.'

'Yes, Doctor,' replied the distressed lady, 'but how am I to do this?'

The other physician, perceiving that his colleague had overshot his mark, simply replied;

'My dear madam, take a little warm salt and water in a piggin, put your child's feet and legs into it, and then wipe them, and rub them well, with a dry warm towel.' — "O! Yes Doctor," said she, "it shall be done immediately." So much for the heading of Chap. IV. The following is its first paragraph.

'The preparation of the blood or sanguine nutritive humor, constituted of the nutritive elements furnished by the aliment, and the humors of the venous and lymphatic absorption, is completed in the lungs, by the function of respiration. The fluid thus prepared, is adapted for the maintenance of vital phenomena, the nutrition of the organs, and the secretions. But it requires to be distributed, for these purposes, to the various organs composing the animal organism, which is accomplished by the function of the circulation, through the medium of the vascular system.' — *Ibid.*

Another scrap of composition, as periphrastical, inflated, and involved (not to add ambiguous and obscure) as a superabundance of badly chosen words, thrown together without either taste, skill, or judgment can render it! To be prepared to make a fair estimate of the unfitness of the work we are examining, it must be borne in mind that it is *elementary* — prepared expressly for pupils commencing the study of medicine. But what pupil, green in his studies, can comprehend the meaning of such phrases, as '*the nutritive humor, constituted of the nutritive elements furnished by the aliment*' — *or* '*the humors of venous and lymphatic absorption*'? — Not one; until he shall have been first initiated into the mysteries of Dr Jackson's phraseology; on which the writings of other physicians throw but little light, and which no medical lexicon, that we have seen, is prepared to teach. It is difficult, moreover, to say, which is most exceptionable, in our author's style, its affectedness, or its tautology. Professing himself to be a scholar, and often assuming the air and pretension of a very learned one, it is hardly less than astonishing, that he should, without any necessity, use the following awkward tautological expressions, in three successive lines — ' nutrition of the *organs*' — and 'the various *organs* of the *organism*.' The words here printed in Italics are such favorites with Dr Jackson, that we hazard but little, in asserting our belief, that he introduces them, into a given extent of composition, *four times* as often as any other writer, in the English language; except *perhaps* one or two gentlemen, belonging, like himself, to the Broussaian School. It would not be extravagant to say, nor do we intend any personal offence by the remark, that violations of good writing, so frequent and gross, savor much more of the sophomore, than of the accomplished author. — Turning to 'SECT. IV.' of the same chapter, we find the following heading '*Pathological or Abnormal State of the Circulation*,' which, in plain English, means, *Deranged circulation* — *Irregular circulation* — *or Morbid or Diseased Circulation* — and nothing more, either of which phrases is much more intelligible and scholarlike, and in all respects, better, than the tumid, periphrastical one of our author, who appears to have forgotten, or conceived a rooted dislike of, the words, *morbid, deranged, regular, irregular, natural* and *healthy.* As substitutes for them, therefore, he employs, (because, perhaps, being more novel and sonorous, they are better suited to pompous diction and *fashionable* eloquence) the terms *pathological abnormal, normal, physiological,* and a few others of a similar stamp. Instead of our plain, old-fashioned *morbid condition* of any part of the body, we have now, a '*pathological or an abnormal state of a tissue or an organ*' — and, instead of *a regular, natural, or healthy* condition of a function, we are now told of a '*physiological or normal excitation* of it. Instead again of having, as we once had, in one part of the body a condition corresponding or harmonizing with the condition of another part of it, we have now, one '*organ or tissue of the organism in relation with another,*' — a 'purple patch' of affected, *frenchified* phraseology, deforming and corrupting our language, by marring its simplicity, and altering its meaning! For it should not be forgotten, that the French word 'relation' and the English word 'relation' differ in their signification. — These are but a few of the new fangled forms of technical expression, dictated, we suppose in Paris, which seems to be, to our author, what Mecca is to the pilgrims of the Faithful. Such outlandish gibberish is shameful — equally so with outlandish mustaches, costumes, and airs — and the professional dandies, who import, adopt, or, in any way, encourage them, should be cured of their folly, by the lash of the critic. They are the Della Cruscans in medicine, and deserve the extirminating scourge of a Gifford. We like good French very well, in its proper place, and often resort to it, with pleasure and profit; but we have no notion of bartering our mother tongue, for a mongrel dialect, neither French nor English. That would be a stretch of courtesy, toward things from abroad, to which our home-bred taste, and unforeignized Americanism cannot submit. We go for the 'American System,' *in language*, leaving to Statesmen, financiers, and political economists, to settle the question about banks and manufacturers, as they may — But, to proceed.

Opening our author's book at page 600, our eyes are almost blinded, and our ears stunned, by a volcano of fume and words, in full blast, which convey to us little else than smoke and ashes, accompanied by a babel of confusion and noise. We give to the reader the whole concern, 'alone in its glory,' hoping that *he* may decipher it and derive edification from it, though we cannot.

'When the organic action of an organ, from the abstraction of its normal stimulants, excessive congestion of its tissues, or from any other cause, are enfeebled, or reduced in activeness or power, the production of its vital force, its irritability, its sensibility, its nervous activity, all depending on the organic actions for their production, decline; its vital phenomena are diminished; it ceases to radiate its accustomed nervous stimulation or vibrations to the nervous centres, and thence into the organization; and a sedation, diminution of the vital movements or organic actions, an asthenia follows as a necessary consequence, in the whole circle of organs in its connexion, and frequently in the whole organism. This may even reach an extent terminating in death.'

In its kind, this ebullition may be pronounced perfect — a specimen of balderdash, as rank and unqualified as writer ever penned, or reader perused. From beginning to end, the paragraph has not one good quality of style, and almost every imaginable bad one. To suffer such unmeaning verbosity to pass current, under the name of *science* and *eloquence*, and even to praise it, (for the book has been praised) is a blot on the literature of our country. No wonder that European tourists scoff at us, as an unlettered, tasteless, and unrefined people! While we tolerate and encourage such jargon as this, their jeers can hardly be considered misapplied. And the following ejection of words, on page 601, is not much better. It is a caricature painting of an apparent but deceptive case of convalescence.

'The delusion soon vanishes — a sentiment of inward failing is perceived, it rapidly becomes a feeling of extreme exhaustion, a fainting debility seizes on every organ, the surface is algid and pallid, a cold and clammy sweat breaks from every pore, the respiration is hurried and feeble, the mind wanders, the senses are obscured, the efforts of the muscles are tremulous and without force — life is escaping from every avenue, and where, but a few minutes before, was the animation and brightness of hope, is now spread the darkness of despair.'

What a mortifying contrast is here displayed, between vehemence of effort and baldness of performance! and between poverty of conception and exuberance of words! In such phrases, moreover, as 'sweat breaking from every pore' — 'life escaping from every avenue' — and 'the brightness of hope' being succeeded by 'the darkness of despair' — in these expressions, we say, intended no doubt to be highly descriptive and impressive, as well as very pathetic, there is a triteness, and common-place vapidness, denoting, in their author, anything but a fertile and vigorous mind.

Once more. In page 604 we are told, that, in a certain described condition of the system, 'the organs remote from the seat of the irritative movements, are robbed of the proportion of the sanguine element necessary to their healthful constitution, and that then, an exhaustion, a debilitation, a sedation of their vital activity ensues — hemostasis from deficient power is induced, and the functions either languish in extreme feebleness, or they are entirely annulled. This condition often occurs, and frequently with a frightful and incontrollable rapidity, when highly vital organs, rich in the *capillary angeial tissue*, and abounding with the sanguine element, are assailed with violent perturbating impressions.'

'From the sublime to the ridiculous,' said Napoleon, 'is but a single step.'

> 'He roar'd so loud, and look'd so wondrous grim,
> His very shadow durst not follow him,'

said somebody else. And we say, that a more bloated sample of the *bathos*, than these two or three extracts furnish, has rarely issued from the travail of an overburdened brain. It clearly shows, that the pretension was far beyond the just claim, and the struggle equally beyond the strength of the writer. Hence the unseemly floundering and tottering, that every where mark the ricketty product. As already intimated, there is an imbecility of thought, and a poverty of invention in it, which no bluster of manner can make amends for, nor any accumulation of high-sounding and out-of-the-way words conceal. Its violations of grammar, though sufficiently striking, are lost amidst the mass of its weightier faults.

We do not say, that the entire volume we are examining is as unscholarlike, in style, as the few paragraphs we have quoted. In an assertion to that extent, facts would not sustain us. But we do say, that a large portion of it is nearly so; and in that we are sustained by the best of testimony — the book itself. Nor do we hesitate to add, that we have been unable to find a well written page in it, from the first to the last. The entire composition, taken as an aggregate, is, to say the least of it, of an ordinary cast. Even when not so bombastic, affected, or overcrowded with ill-chosen words, it is loose and unfinished — totally wanting in *belles-lettres* character.

Scientific and professional, as the work purports to be, we would not have thought of preferring these charges against it, had not its author, in composing it, attempted to play the fine writer and the man of eloquence, and to erect a new standard in the use of language. Nor, even in that case, would we have deemed it necessary to animadvert on its style, however faulty it might have been, had we not apprehended that the example set in it might become contagious, and, among young physicians, vitiate the medical writings of our country; or, if not of the whole country, of that portion of it where the author is known to possess no ordinary amount of popularity and influence; we mean, more especially, among the pupils of the school in which he lectures. Were Dr Jackson a common member of the profession, we would leave his book to pass silently into that oblivion which awaits inevitably all such productions. But, industrious and energetic as he is, fluent in conversation, courteous in manners, and aided by the post he holds, and the popularity he has acquired, it would be singular if his writings were not to operate, with considerable power, for *good* or for *evil*, according to their character. Believing, therefore, that their style is calculated exclusively for the *latter* effect, and that the mischief done by it may be extensive, as well as durable, we have deemed it our duty to endeavor to counteract its tendency, by giving a free but fair analysis of it. To represent its qualities, *as they are,* is all we think necessary for the end we have in view. And, as we have said in substance in another place, if there be any real severity in our remarks, it will be found to consist *in their truth.* Unfounded strictures could only rebound, in mischief, on ourselves.

Nor is there wanting another reason, which has had a little weight with us on the present occasion. Our author has acquired some name and standing abroad, as well as at home. It is even said that he is considered, especially in Paris,—the head-quarters of the medical sect to which he belongs, — to be an aspiring leader, destined, perhaps, to form a new school in the profession, and give a new caste to medical literature in the United States. Persuaded that an event of this kind, as respects Broussaism *entire*, of which he is an advocate, were it possible for it to occur, would be highly injurious to American medicine, and far from creditable to those who cultivate it, as a science; and further persuaded, that it is but little complimentary to the Faculty of the United States, for even a suspicion of the sort to be entertained in foreign countries —

from these considerations, we have thought it right at least, if not absolutely necessary, that a public protest should be entered against both the probability and propriety of the event, which the suspicion prospectively embraces. And others having overlooked or neglected the duty, we have ventured on its performance ourselves. Whatever the compass of his desires, or the scope of his ambition may be, Dr Jackson is not of a character to revolutionize either medical literature or practice. He wants the extent and power of mind, as well as the steady perseverance and consistency, essential to such an achievement. His notions are too light, and his views too narrow and mutable, to suit the purposes of a revolutionist, or a reformer. Grasping, intellectually, nothing that is great, and ballasted, in his mental movements, by nothing that is weighty, he is much more likely to *be* changed, than to *change* — to *receive* caste, than to *communicate* it. In plain terms, he is an imitator and a follower, and rarely continues long under the banner of the same leader, without finding fault with him, and perhaps so far seceding, as to endeavor to form, on the same general principles, a party of his own. Enamored of variety, no sooner does a new theory reach him than it becomes his favorite, until it be superseded by another. Of this mutability in him, there is abundant proof. His Broussaism* is not now what it was a few years ago. Nor is this all. A solidist in some of his speculations, he is *virtually* a humoralist in others. His perpetual veering in opinion, reminds us, at times, of the poet's Zimri, who,

> 'In the course of one revolving moon,
> Was poet, fidler, statesman and buffoon.'

In but one thing is he exclusive, and perfectly himself — his style of writing. *There,* he as yet stands alone. In all other respects, he is made up of *communicated*, and mostly *foreign* matter. Were every bird to resume its own plumage his covering would be scanty. The reason of all this is plain.

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* The Doctor ought to know, and possibly does, that Broussaism, in Paris, is becoming obsolete. True, some of its tenets are sound; but, as a *system*, its days are numbered. The opinions of Andral, Louis, and others, are now on the ascendant; those of Broussais rapidly on the decline. Such parts, moreover, of his system as are destined, from their soundness, to stand the test of time, are not *his*, but were familiar, at least to some physicians, before his name was known as a writer. Like all other innovators, of an intrepid spirit and a burning imagination, he has pushed some of his views so far beyond the boundary of facts, as to render them as baseless as the doctrines of *homœopathy*, to which recent letters from Paris inform us they are now likened.

He wants originality and invention. His views, therefore, are necessarily second-hand. His industry and capacity to *acquire* have given him a large stock of information, as his Principles of Medicine evince. And much of his matter is valuable. But he lacks judgment to select from among it the true elements of science, talents to arrange and combine them and deduce from them correct inferences, and taste to clothe them in suitable language. He has no sound views of the fitness of style and manner to subject and design. With him, language has no peculiar affinities. He does not seem to know, that philosophy, history, oratory, and poetry have each its appropriate cast and tone of expression! and, that a form of phraseology suitable and elegant in one of these departments of literature, is unfit for either of the others, and in some of them ludicrous. The language of poetry in works of science, is like the fanciful costume of sixteen, bedecking the witheredness and decrepitude of four-score. It is meretricious ornament. And a neglect, or an inability to discriminate on this and other points of fitness and taste, or a reprehensible disregard of them, is a fruitful source of our author's faults. On every topic, gay or grave, trivial or important, the form and tone of his composition are nearly the same. His manner is periphrastic and strained, and his language redundant, pompous, and gaudy. Worse still ; besides being inaccurate and loose, his style is frequently ambiguous and obscure. Were we to add, that it is occasionably unintelligible, passages in his book are not wanting to sustain us in the remark.

Were any of Dr Jackson's friends, who take an interest in his advancement and permanent standing, as an author, to ask us, what are the causes of the faultiness of his style ? our reply would be brief. They appear to be, a degree of ambition in him disproportioned to his ability to gratify it, united to a want of judgment and taste. The former makes him aim at things beyond his reach, and the latter disqualifies him to decide on fitnesses. Hence arise the pomposity and affectedness of his style — a means injudiciously selected by him, to enhance his reputation, as a writer. Hence, also, his frequent use of unaccustomed words, as well as of customary ones under strange meanings, and his ostentatious foreignisms, to make a show of great familiarity with countries and their literature, which he has never visited. Had he spent years in Paris, there would be some apology for his being a little *Parisionized.* Yet even then the taint would be discreditable to him. The motto of every enlightened and judicious traveller is, *Non animum mores ne mutent, qui trans mare current.* Men should travel, not to abandon or change the mind and manners of their country, but to improve them. Dr Jackson, however, having never visited a foreign land, we hold him without excuse, for attempting to vitiate his native tongue, by a foreign dialect. Nor do we hazard anything, in assuring him, that he will never gain renown, or, in any way, benefit himself, by the enterprise. On the contrary, his reputation, as a writer, has already suffered by it, and unless he relinquish it, will be ultimately ruined. Does he, from any motive, discredit our prediction? Let him persist in writing, as he now does, and mortifying experience will convince him that we are right. His own pupils of judgment and taste will cease to be his followers, and none but the feeble and shallow-minded will give him the incense of praise.

There is yet, as already suggested, another, and perhaps a more stubborn reason, for our author's indefinite, loose, and reduplicated style. He is not a definite and lucid thinker. His ideas, especially those of the *higher classes of relation*, are neither well defined, clear, nor accurately arranged. It is not possible, therefore, that they can be accurately and perspicuously communicated by him in words. The converse of this is equally true. A clear and regular thinker never fails to be a clear and regular writer and speaker — provided he has a free command of words. And, in that, our author is far from being deficient, as his superabundant employment of them sufficiently proves. Having once expressed an idea, he appears dissatisfied with what he has done, as if apprehensive that he has not acquitted himself well, or that he is not perhaps fully understood. Hence he repeats the idea, in different words; and, being still dissatisfied, he reiterates it, in a third form, and, at times, even in a fourth, without, in either attempt, or perhaps in all of them, improving on the first. And thus is the reader, blinded and bewildered, rather than enlightened, by so many dim and defective views, left in doubt, as to the writer's meaning. The remedy for all this is plain. Let the author, we say again, be perfectly clear in his perceptions and thoughts, before committing them to paper, and he will be equally so in his expression of them. His first effort to communicate will be so satisfactory, that a second will be needless. But no man can operate to good effect, with either body or mind, under twilight or darkness. Intellectual day is as essential to the finish and perfection of mental products, as physical day is to those of material ones. Can a painter represent an object faithfully on canvass, or a sculptor in marble, without a clear and accurate perception of it? No, certainly. But writing is only painting or sculpturing in words. Hence an author can neither represent clearly and definitely the image in his mind, unless his view of it be full and perfect. This is one of the fundamental laws of *writing well.* We respectfully commend it therefore to the attention of our author.

Once more. We are told that those who humble themselves shall be exalted. And the maxim is susceptible of an extensive application. Nor is Dr Jackson beyond its reach. To rise to solid and lasting character, as a writer, he must *fall in his pretensions and claims.* They will not be allowed by an enlightened community. *Aut Cæsar aut nihil* is not his rightful motto; and an attempted usurpation of it (for, *as an American* he has made the attempt) has but exposed the emptiness of his title to a legend so ambitious. While he follows, almost *servilely,* his leaders *abroad,* he must not flatter himself that he can lead *at home.* A chief in medicine, like a chief in war, must have resources in himself. He must be an original. And, to originality of mind, as already mentioned, our author is a stranger. Juvenile in all respects, as his composition is, he is fitted only to lead *young men,* who, when strengthened by maturity, and instructed by experience, will desert his standard. This prediction, also, time will verify.

For the sake of all concerned, we sincerely hope, that some of the Doctor's friends, possessing judgment and taste, will prevail on him so far to lower his literary pretension, as to be content with the highest grade of authorship, for which nature has intended him — a *third* or *fourth* rate American writer. *There* he will be at home. But, his aspiring to the *first* rank, is like an infant grasping at the moon, or a bird of feeble wing attempting to move in the path of the eagle. As respects style, we have but a single remark to add. We ask our readers to forget or disregard all we have said on the subject, and then carefully examine and compare with each other, the extracts we have made, from the four works at the head of this article, and exercise their own taste and judgment on them. By such a measure, not only will an enlightened and discriminating public be most correctly informed, as to the matters at issue, but we, as we feel persuaded, will most certainly escape all suspicion of undue partiality, on one hand, or expressive severity on the other. A brief examination of Dr Jackson's notions of the powers that move the venous blood, shall close this paper. The hypothesis he advocates is made known in the following passage:

'When the lungs expand, in the act of inspiration, their capacity enlarges, the compression exercised on them is removed, and consequently the resistance to the passage of the column of venous blood into the lungs, from the right heart, through the pulmonary artery is diminished. The blood passes with greater velocity, and the ventricle is completely emptied with each contraction. Inspiration in this manner expedites the movement of the column of blood, returning from all the organs of the economy through the heart, increases the velocity of the venous circulation, and facilitates the *evacuation of the capillaries of the viscera.*' — p. 424.

Admitting that the 'velocity of the venous circulation' were increased, as it is here alleged to be, we do not perceive how that circumstance could 'facilitate the evacuation of the capillaries *of the viscera,*' any more than of those of the other parts of the body. Nor do we believe that it would do so. We apprehend that all the capillaries, belonging to the systematic circulation, bearing to the increased 'velocity' the same relation, would be similarly affected by it. Certainly the consideration of their being more or less remote from the heart, would produce the only difference, that could exist, in the influence exercised on them. And that must be inconsiderable. It appears to us, therefore, that our author's survey of the subject has been limited, and that his notion of it is defective.

We do not consider this, however, his greatest mistake. His entire hypothesis appears to be unfounded. We call it *his;* not that he is its *author;* but because, like most of his other opinions, it is his *by adoption.* 'When the lungs expand,' says he, 'in the act of inspiration, their *capacity enlarges,* and the *compression* exercised on them *is removed.*' True; when the lungs *expand,* their capacity is certainly *enlarged,* because these expressions are *synonymous.* But our author has not told us *what part* of the lungs expands; and to settle that point is all important, in the present inquiry. The lungs consist chiefly of *air-cells* and *blood-vessels.* That the capacity of the *former* is enlarged in inspiration, is certain. That, however, in no degree avails our author, in the maintenance of his hypothesis, unless he can show, that the calibers of the *latter* are also enlarged. And that he will find to be a difficult task.

Positive evidence on the subject he has none; and that which is circumstantial appears to be against him. That the blood-vessels of the lungs bear such a relation to the *air-cells*, and are so connected with them, that they are stretched *in length*, by the distension of the latter, in inspiration, is certain. But is it equally so that they are stretched also in *width?* We think not. It seemed to us, that a belief to that effect, involves a contradiction. We can easily understand, how stretching can make such a tube as a blood-vessel longer and *narrower*. But in what way it can render it, at the same time longer and *wider*, passes our comprehension. Nor do we believe that our author will hazard his reputation, by maintaining that it does so. The problem can be brought to the test of experiment. Let an artery, vein, or any other animal tube be lengthened, by mechanical force, and its caliber will *be necessarily diminished in width.* How then can the blood-vessels of the lungs be, at once, both lengthened and widened, by the distension of the air-cells? That such an effect can be thus produced, appears to be denied, by all the evidence that bears on the subject. But we repeat, that the blood can gain a readier passage into the lungs, and out of them again, only by an expansion of the calibers of the vessels, through which it flows. When the gall bladder, or the bladder of urine is artificially distended with air, are the calibers of the minute vessels that enter into the parietes of the organ also distended? No, certainly; they are much more likely to be entirely closed. We ask again, then, how, under like circumstances, can the result be opposite, in case of the distension of the air-cells of the lungs? Let our author reply, in accordance with his hypothesis, or acknowledge the hypothesis so far defective.

Another ground of argument assumed by the writer, is, that during inspiration, ‘ the compression exercised on the lungs is removed.’ We ask in what way? and we do so, to gain information; for we cannot perceive the fitness of inspiration to effect such removal. The ‘ compression ’ alluded to, (supposing it to exist) is produced by the air within the lungs pressing *outwardly*, and the walls of the thorax, and the diaphragm *without* pressing *inwardly*, in the form of *reaction*. The lungs never being empty of air, therefore, after the infant’s first act of inspiration, the compressing bodies are always in contact with them, and always in action. Nor can we perceive that the compression is greater at one time, than at another — provided the weight and elasticity of the atmosphere are the same.

It *may* indeed, be said, that the compressing agents *work* by turns. During expiration, the parietes of the thoracic cavity may be pronounced the *active* compressors, while the air in the lungs is *most active* during inspiration. This, however, is but a form of words. In the present, as in all other cases, action and reaction are synchronous and equal. When the air within them presses the lungs against the walls of the thoracic cavity, the walls repress them against the air with equal force. And when those walls, in expiration, press the lungs against the air they contain, that air presses back again. Hence, at all times, in inspiration and expiration, supposing the atmosphere of the same weight, the compression of the lungs appears to be of the same force. Reasons of some plausibility *might* be assigned, why their compression would seem to be greatest, during their fullest mechanical expansion, the volume of air contained by them, one of the compressing agents, being then largest. We perceive no cause however, why, under such circumstances, the compression should be 'removed.'

True ; we are told, that, during inspiration, there is a *vacuum* in the lungs, and that the blood rushes from the heart, with increased velocity, to fill it. This is a mistake. The air already *in the lungs*, by its expansion, and that *without*, by rushing in, prevent a vacuum. The *plenum* in the lungs, and in the entire thoracic cavity, is as perfect during inspiration, as during expiration. The opposite opinion is but a notion of the schools, and cannot be maintained. The compression on the lungs, therefore, appears to be always the same. What is said by some, about the crooked or convoluted state of the vessels of the lungs, during expiration, and their more straight and developed one, during inspiration, with the effect supposed to be thus produced on the circulation, is unworthy of notice. Besides, the blood is thrown into the lungs, by the right ventricle of the heart, precisely as it is thrown into the aorta by the left. Nor is a vacuum necessary, in the former case, any more than in the latter. From its thickness and strength, the right ventricle appears to be quite as competent to maintain the *short* circulation, as the left is to maintain the *long*. But our author, by his notion of a vacuum, renders the right ventricle a very unimportant, not to say a superfluous organ. That such is the tendency of his hypothesis, could be clearly shown, had we leisure to comment on that relation of it. But to every one who may reflect on it, it must be sufficiently obvious, without comment.

The Doctor tells us again, that, during inspiration, 'the blood passes (into the lungs) with greater velocity, and the (right) ventricle is completely emptied with each contraction' — and that this 'expedites the movement of the column of blood, returning from all the organs of the economy through the heart.' The plain English of this is, that inspiration not only accelerates the circulation of the blood in the *arteries* as well as the *veins*, but renders the column, in each class of vessels, fuller and stronger, while expiration produces the opposite effects. Such is the hypothesis, as might be easily made to appear, by a fair exposition of it. To correspond with it then (for the right and left ventricles of the heart must act in concert) the pulse ought to be irregular, fuller and more frequent, as well as stronger, during inspiration, than it is during expiration. For the entire column of blood, venous and arterial, being continuous, a temporary impediment, to the movement of it, in one place, is a similar impediment, in every place; and the converse. Remove the impediment, in one place, and the whole column is free. But we need scarcely add, that the pulse does not vary to suit these notions. It is as full, frequent, and strong, during expiration, as it is during inspiration. And the same is *necessarily* true of the column and movement of the venous blood. Neither inspiration nor expiration produces on the quantity or motion of the circulating fluid, in either the arteries or veins, any perceptible change. Nor is this all. We are far from being confident, that to diminish the compression, which the lungs usually sustain, tends to facilitate the passage of the blood through them. On the contrary, we apprehend that it retards it, by lessening the tone and power of the organ. Were the pressure of the atmosphere suddenly withdrawn from the whole body, a state of general debility would be the consequence, and the action of the whole system would be less vigorous. This is incontestible. As respects particular organs, the same is true. It is well known, that a degree of compression, properly graduated and judiciously managed, aids the circulation, in cases of weakness. Hence the benefit of a bandage to a debilitated limb, affected with anasarca, or varicose veins. If the application of it be well timed and skilful, the languid vessels are strengthened, and the movement of the blood invigorated and sustained. A given degree of pressure moreover braces and strengthens the muscles and the bowels.

On the summits of lofty mountains, respiration is difficult and unrefreshing, and the passage of the blood through the lungs retarded. The cause appears to be twofold; the diminished pressure of the atmosphere on the lungs, and the diminished amount of oxygen in a given volume of air. The compression, which had sustained the tone of the lungs, being partly removed, the organ loses its vigor, and its weakened vessels, especially its capillaries, instead of contributing their part to the movement of the blood toward the left side of the heart, allow it to escape through their ruptured coats, or their distended mouths, or both. The same may be said, and, as we believe, for the same reason, respecting the impeded respiration of animals, placed in a semi-exhausted receiver. It is neither true, then, that the compression of the lungs is diminished in inspiration, nor that the movement of the blood in them would be accelerated, by the diminution, did it exist.

As respects the supposed influence of respiration, on the circulation of the venous blood, another mistake, truly surprising, committed by Dr Jackson, deserves to be noticed. It appears in the following paragraph.

'The degree of this influence (that of respiration on the movement of the venous blood) is very perceptible in the brain. When this organ is exposed, by a removal of a portion of the cranium, or the hand is placed on the fontanelles of an infant, an alternate elevation and depression are perceptible in the brain, *perfectly synchronous with expiration and inspiration.* This motion of the brain proceeds from the *sudden arrest of the blood* in its course through the veins, caused by the compression of the lungs *in expiration*, opposing its afflux into them from the heart, and the sudden *increase of its velocity*, by which the veins are rapidly emptied, produced by the rush of blood into the lungs when expanded by inspiration.' pp. 424—5.

In a case, where truth is ascertainable, by an experiment, that may be satisfactorily performed, in five minutes, or less, we repeat our surprise, that Dr Jackson should have fallen into so palpable a mistake. Nor can we attribute his error to any other cause, than his unfortunate propensity to surrender himself implicitly, and without calculating consequences, to the guidance of some bold and favorite leader. Dr Parry, though not the author, is the reviver, and, at present, the chief advocate of the hypothesis we are considering. In the reasons, which led Dr Jackson to become so readily and thoroughly the disciple of that writer, we take no concern. It is enough for us to know, that his proselytism could not have been the result of enlightened sagacity and sound investigation. It betrays on the contrary, a singular want of knowledge of a common phenomenon, whose cause we thought was familiar to every one.

That there exists an alternate rising and subsidence of the brain, is true. But, that these movements are 'synchronous with expiration and inspiration,' is not true. The assertion is in direct opposition to fact. The pulses of the brain are *synchronous with the contractions of the left ventricle of the heart*, and are caused by the *propulsion* of the *arterial* blood, not by the *retardation* of the *venous*. On this point we speak confidently. Nor does our opinion rest on our own experience and observation alone, but also on those of others, often repeated, as well at our request, as from a desire in the experimenters to satisfy themselves. And the result has been uniform. Among those who have resorted to suitable experiments, we have never heard a dissenting voice. The decision, that the pulse in the brain is synchronous with that of the arteries, has been unanimous. Every experienced accoucheur will testify, that, during the birth of the infant, *before it has breathed*, the pulsation of the frontanelles is perceptible, and is synchronous with that of the umbilical cord. And almost every mother and child's nurse are ready to assert, that the skin of the infant's head, when bare, and its cap, when on and in contact with the skin, are protruded in unison with the beats of its pulse. The following case is conclusive on the subject.

In consequence of a fracture and depression of the cranium, a portion of the bone was removed by the trephine, and the dura mater laid bare. The pulsation of the brain was very strong, and synchronous with that of the arteries. To settle definitively the question of the influence of *respiration* on the phenomenon, the patient was directed to *suspend that function*. He did so, and the cerebral pulsation continued unchanged. Nor did it matter, whether breathing was suspended after inspiration or expiration. In neither case was the pulsation of the brain altered in frequency, fulness, or force. We could cite other cases equally conclusive; but the work would be superfluous. The controversy is at an end. Had Dr Jackson, or his chieftain Dr Parry, observed the fact, and reflected on it but a moment, that in expiration the movement is *gradual*, while the cerebral pulsation is *quick*, he must have clearly perceived that two modes of action, so opposite to each other, could not be related as cause and effect. Between movements so related, harmony must exist; and it does exist between the movements of the brain and those of the heart, both being sudden and quick; while, between the movements of the brain and the lungs, there is a striking discrepancy.

But we have not yet exhausted our whole store of evidence on this subject. The intermitting pangs, which a phrenitic patient feels in consequence of the alternate tension and relaxation of the membranes of his brain, are synchronous, not with his acts of expiration, but with the contractions of his heart. And when we lay ourselves in a horizontal position, our head being on a level with the rest of our body, and attend actually to our sensations, we are conscious of an augmented fulness of the brain, at the time of each arterial pulsation. In this experiment, no sensible effect is produced, by either expiration or inspiration.

We are told again, that during each act of expiration, the jugular veins *swell;* because the motion of the blood in them is arrested. Why the *jugular*, rather than other veins? Why is not a similar swelling visible in every superficial vein of the body? For the best of all reasons — *none occurs.* Nor does any occur in the *jugulars* either, unless it be produced by muscular pressure. Let the experiment be fairly made, and we will cheerfully and confidently abide the issue. We have performed it ourselves, scores of times, and often witnessed its performance by others; and always with the same result. When the neck is held straight and still, so that the jugular veins experience no unusual muscular pressure, we assert that they neither swell on *expiration*, nor subside on *inspiration*. Their volume remains stationary, unaffected by either act. Dr Jackson should look with his own eyes, examine with his own fingers, and count beats and movements, by his own watch, instead of trusting implicitly to the eyes, fingers, and watches of foreigners. And, until he shall have learned to do so, we hazard nothing in asserting, that he will never be an accurate writer, or a safe instructor. Nor will he ever be steady in his inquiries, settled in his opinions, or consistent in his practice. He will continue to be, as he always has been, the sport of veering notions, and the ready tool of innovators in medicine.

But we must have done with his hypothesis. It is a fallacy throughout, and possesses as little ingenuity as solidity. A thing so baseless must soon be without an advocate or a *name*, except where it shall be *recorded* as an exploded error. Those who may be desirous to see a discussion of it, perfectly fair, and perhaps sufficiently full, will find one in ‘The Transylvania Journal of Medicine and the Associate Sciences,' Vol. I. pp. 40—209.

Might we venture, without giving offence (and we certainly intend none) to address to Dr Jackson and Professor Geddings, a word or two of parting counsel, we would earnestly advise them to become, as writers, in substance as well as manner, less of foreigners, and more of Americans; to abandon their misplaced ambition and empty hope of attaining the rank of *leaders at home*, while they are nothing but *retainers and followers abroad*, and be content to move *in line* with their countrymen; to renounce all mental extravagance, and cultivate sound taste and sober judgment, especially a taste for simplicity and fitness, by which they will escape inflated conceptions and pompous diction; to bear in mind the maxim wisely inculcated on the heedless charioteer, *in medio tutissimus ibis*, and the fate that befel him, in consequence of his neglect of it; and above all, to avoid affectation, which is an acknowledgment of inferiority, and learn to think closely, definitely and clearly, giving to their ideas substance, shape, and arrangement, and comprehending them perfectly themselves, before attempting to communicate them to others, and then to express them in customary and intelligible language, using no more words than may be necessary for the purpose. In fine; we would admonish them to study well their own capacities and powers, improve them earnestly and judiciously, by such kinds and degrees of discipline, as may be found most suitable to them, and never, in violation of modesty and discretion, attempt again to overleap the boundaries of the limited sphere, in which alone they can move with credit and usefulness. Should our advice be rejected, we have only in conclusion, to request our authors, to attach to each book and essay they may publish hereafter, a suitable glossary, to save their readers the time and trouble of constantly searching their dictionaries, often for words they do not contain. In case of their observance of either of these forms of counsel, we promise the writers, that they shall hear from us no more, except perhaps in commendation of their reform, which would be much more gratifying to us, than the work of condemnation. But if they prove deaf to both, and obstinately persevere in their present style of composition, to the offence of good taste, and the danger of bringing discredit on the medical literature of our country, we hold ourselves as free to award censure, as they are to deserve it.

ART. II. — MASSACHUSETTS MEDICAL SOCIETY.

THE annual meeting of the Massachusetts Medical Society occurred on the 4th of the present month. As usual it brought together a great number of the profession, collected from various parts of the state, and bearing an harmonious testimony to the efficient regulation of the best organized, and one of the largest medical associations in existence. Fifty years ago, when this society was first founded, it was limited to seventy fellows, now, it numbers nearly five hundred, and includes, with very few exceptions, the name of every respectable practitioner in the Commonwealth. About one hundred and fifty members sat down to dinner together, and some idea may be formed of the appearance of such a concourse, when it is stated, that no private apartment in the city has been found large enough, to accommodate the society at their annual dinner. Upon this occasion, the city authorities generously granted the use of Faneuil Hall, and the festival was accordingly held in this consecrated spot, beneath the portraits of Hancock and of Washington. This is as it should be, and may no petty divisions, or sectional jealousies diminish the respectability of a society founded upon no selfish or partial principle, but upon a constitution which consults the best interest of humanity, and the honor and advancement of the whole medical profession. May it remain, what the French Republic once assumed to be, 'one and indivisible.'

For the first time, for a number of years, there was no discussion of alleged grievances on the part of that portion of the fellows of the society resident within the limits of Berkshire county. We cannot but think that our friends in that quarter must be convinced of the sincere desire of the rest of the society, to acquiesce in the most liberal arrangements with regard to their interests and feelings, and to do everything for their accommodation which can be made consistent with the faithful observance of the fundamental laws of the society. It is one of the principal excellencies of the society, that its essential benefits are felt in the same manner, in every part of the state. And now, that the Library is distributed to the several district societies, there are no peculiar privileges conferred by local residence, except a greater convenience in attending the annual meeting, by those who reside in the neighborhood of the city, which though a pleasant and we hope a profitable interview, cannot be ranked among the *essential* benefits conferred by the society.

The most important business transacted at the annual meeting this year, was the acceptance of the report of the Anatomical Committee, and the alteration of the day of the annual meeting, to the last Wednesday of May, to correspond with the anniversary meetings of other public institutions, which usually take place on Election week. This alteration has been made solely to accommodate the members from the country, whose convenience it was believed would be promoted by enabling them to attend the public meetings of other institutions, in which they were interested, at the same time with that of the Medical Society. By the labors of the Committee on Anatomy, aided by independent and enlightened members of the State Legislature, dissection is placed upon its proper ground. The town authorities are empowered to furnish for dissection the bodies of those who die while being maintained at the public charge, provided there are none among the living who will appear and show that they have feelings to be wounded by the use intended to be made of the body of such paupers.

After the business of the day was transacted, the society listened with great interest to a most ingenious dissertation upon Quackery, from Dr Howe of Billerica. The speaker's wit, and felicity of expression not only occasioned merriment among the 'juveniles' of the profession, but caused a relaxation of the muscles of the face of the most austere medical visages in the lecture-room, and once or twice, by his most pungent hits, he actually inflicted a broad grin upon the entire audience. As this performance will be published, as a matter of course, we shall not give an analysis of it, but briefly notice one or two points upon which we deemed the speaker most successful.

The foundation of the matter of Quackery, the speaker believes to be in the infinite gullibility of human nature, which is often found to be greatest, where we should least expect it. The speaker here cited the instances of literary dupes, learned dupes, and even *professional* dupes. He made some hard hits upon that impatient race of great men in our profession, who are for making a short cut to immortality, by transmitting their names to posterity upon the certifying wrappers of a bottle of Panacea, or of Aromatic snuff. The prescribers of gin-bitters, and brandy tinctures, received a much needed lesson, and the speaker showed how easy was the transition from the use of those compounds, to that of the simple menstruum in which they were contained. It was the 'old serpent Alcohol' which was at the bottom of the draught in both cases.

The character of the quack was well described, and his success in mousing out the cases suitable for the practice of his impostures. The trust of the quack, as in the case of Sir Kenelin Digby, and his weapon-salve, is entirely in the powers of the human constitution, which will bear more abuse than is even generally known, and consequently the charlatan fastens upon the cases of chronic disease, and tells them in the language of the antediluvian deceiver 'thou shalt not surely die.' The remedy for these evils the speaker believed was to be found in a combined appeal to public opinion, properly enlightened by the public press and public lectures, and in the faithful analysis, and exposure of the composition of quack medicines. We are afraid these remedies will not prove efficacious against so inveterate a disease, but we cordially pray for their success.

On one other point Dr Howe's reputation for extensive surgical experience, gave his remarks great weight. He believes that in the treatment of Cancers by empirical pretenders, the public may be undeceived in respect to the reputed operation of their caustic applications, by faithfully exhibiting and amplifying the following consideration.

1. That all caustics must act indiscriminately upon every part subjected to their chemical action.

2. That most cases of triumphant cures effected by quacks, consist in the removal of tumors which are perfectly harmless and free from danger.

3. That those applications when made upon parts affected with real carcinoma, are necessarily painful and dangerous, and instead of separating 'the cancer' from the sound part, effect a totally different separation, that of the soul from the body.

The speaker introduced into the body of the discourse a number of anecdotes, which were generally appropriate and well told. We are not sure there were not some persons present sufficiently fastidious to have considered some of these illustrations to be, either in matter or manner *infra diguitatem*, but, however that may be, we are free to confess that we partook largely in the general hilarity which they engendered, and the excellent appetite for dinner which they promoted.

P.

COLLECTANEA.

RADICAL CURE OF PROLAPSUS OF THE RECTUM.

BY BARON DUPUYTREN.

THE skin covering the margin of the anus is very fine, and colored differently from any other part of the body. It contains a great number of mucous follicles, which secrete an oily matter, giving out a peculiar odor. The skin forms several prominent folds separated by as many furrows, which converge from the circumference of the margin of the anus towards its centre; they even dip into the cavity of the anus, and are more numerous in proportion as the orifice is closed upon itself. When the anus is dilated they disappear; their use appears to be, to favor the dilatation of the anus, and excretions of fecal matter. Beneath the skin we have a layer of fibro-cellular tissue; below this the external and internal sphincters, composed, as you all know, of circular muscular fibres.

Having thus far recalled to your minds the anatomical structure of the parts, we may proceed to a description of the method of operating. The patient is placed on the abdomen, with the head and chest low, while the pelvis is elevated upon pillows; the thighs are separated, so as to expose the anus fully; the operator now seizes, with a dissecting forceps (whose points are broad in order to give less pain), two, three, or six, as occasion may require, of the folds of skin already described, and proceeds to remove them with a curved scissors, one after the other; the excision should extend as far as the margin of the anus, or even within its orifice; indeed, when the relaxation of the intestine is great, the excision may be prolonged to the height of a quarter, or half an inch, but in ordinary cases a few lines are sufficient. When the state of relaxation is moderate, it will be sufficient to remove one or two folds on either side; when the intestine is affected in a greater degree, it will be necessary to excise a greater number.

This operation, which occasions but little pain, and produces no inconvenience of any kind, is never followed by hemorrhage, for the only vessels divided, are the extremities of the hemorrhoidal arteries; however, should the incision be carried to any great depth, we can readily conceive that the internal hemorrhoidal vessels might give rise to a loss of blood. The effects of the operation are easily deduced, from a consideration of the anatomy of the parts. The anus in this kind of case is excessively dilatable. We propose to remove this morbid tendency by excising one of the tissues which enter into the composition of the anus, and by exciting the others to contract; this double object is obtained by the excision of the skin, and the consequent inflammation; the cicatrix formed by the junction of the edges of each wound, and the accidental tissue laid down, evidently contribute to produce contraction of the anus; by this means new-formed, adherent portion of the skin is substituted for one which was extremely loosely connected with the adjacent tissues.

Besides, the inflammation which succeeds, extending upwards to the submucous cellular tissue of the rectum, contributes to increase the adhesion of the mucous and muscular tissues. No dressing of any kind is necessary; the pain occasions instantly a strong contraction of the sphincters, and the inflammation soon spreads from the incised points to the sphincter muscles and cellular tissue. The patient is generally costive for the first few days after the operation; but the inflammation soon diminishes, and the sphincters relax, to give passage to the fecal matter, though they are ready to contract on the least effort. In a few days the cicatrix is formed, after which, as the excrement no longer acts on the ulcerated part, the opening is diminished, and the cure completed.

I have now been in the habit of employing this operation for ten years, and always with the same success; indeed, I remember only one case of relapse, and there the operation had been imperfectly performed, in consequence of the impatience and struggles of the child on whom it was practised. The operation practised by Hey, for the cure of a patient affected with piles, complicated with a prolapsus ani, differed from mine in many essential particulars; in fact, we may deduce from the observations of the English surgeon, and of those who afterwards followed his example, that the patients were accidentally cured of the prolapsus by an operation which was exclusively directed against the hemorrhoidal tumors, and which is only applicable to cases where the descent of the intestine is a consecutive effect of the hemorrhoidal affection. My conviction is, that nothing but the excision of the margin of the anus can radically cure this disgusting infirmity. — *Lancet.*

M. Roux on the Restoration of the Perineum.

Injuries of of the perineum in the female commonly depend on the effects of difficult labor, or are produced by an ill-regulated use of instruments. A more or less complete destruction of the perineum may also be caused by various accidents, such as wounds, or gangrenous ulceration. Congenital division of the perineum, if it ever does occur, must be extremely rare; and it is remarkable, that the organs of generation in the female should escape this malformation, which we find so often in other parts of the body, as in the upper lip, the velum palati, sternum, linea alba, &c.

The appearance of the wound presented by the perineum in cases of injury, varies in different subjects. Sometimes the recto-vaginal wall alone is injured, and nature unaided effects a cure; but in most cases the perineum is the part principally affected; sometimes we find a limited central perforation, which may have given passage to the child; and in cases of this kind, the efforts of nature are always successful in uniting the divided parts. In other cases the anterior part of the perineum is torn, while the anus and its sphincters are untouched; and, finally, we may have complete division of the perineum, comprehending, either totally or partially, the recto-vaginal wall. Here the resources of nature are unavailing, the edges of the wound cicatrise separately, and the anus is joined to the vulva by a long, narrow, and irregular slit, the edges of which are covered by a mucous membrane.

The consequences of such an accident are readily conceived. In addition to the disgusting nature of the infirmity, the female is tormented by an incapacity of retaining any fecal matter, and is compelled to live in a state of seclusion, alike repugnant to her sex, age, and domestic habits. The honor of having first attempted a surgical operation for the relief of this accident is due to Guillemen, a contemporary of Ambrose Paré, who succeeded in curing a ruptured *perineum* by the use of the intercepted suture. At a later period the suture was recommended by Mauriceau, Lamotte, and Smellie, but none of these authors say that they had practised the operation themselves. The operation remained for a long time in oblivion, until it was revived, near the end of the last century, by two French surgeons, who have recorded each a successful case. These were the only two facts which were known or cited in surgical works for a very long period. Baron Boyer had never practised the operation during the course of his surgical career; and in his great work confines himself to a simple approval of the means which might be employed. M. Dubois, for many years chief physician of the Lying-in Hospital, attempted the operation only once, without success; and his son was not much more fortunate in the only case upon which he operated: they both employed the twisted suture first used by Saucerotte.

Since the successful cases of M. Roux have begun to attract general attention, it has been observed in a journal that Baron Dupuytren effected a cure by means of the suture about fifteen years ago, and that M. Montain, of Lyons, was equally fortunate in an operation which bears some resemblance to that imagined by M. Roux. English surgery, though productive of so many useful improvements, seems to have abandoned the accident altogether; the Germans, indeed, took up the question about the beginning of the present century, and discussed with much ingenuity the period most proper for the operation; the principal partizans of the suture were MM. Mentzel, Osiander, and Dieffenbach of Berlin; some proposed the intercepted suture, others the twisted suture, but some have recommended the quilled suture. M. Dieffenbach was in the habit, as appears from his description of the operation, of practising two longitudinal parallel incisions along the sides of the vagina and perineum, in order to prevent the dragging to which these parts might be exposed by the action of the suture, and was successful in two cases; Osiander obtained a cure in one case without having recourse to the lateral incisions.

These operations of the German surgeons were well known in France, but the cases of success were rather regarded as exceptions, and it was not conceived possible to discover a means of restoring the perineum, applicable in all cases, and affording any sufficient probability of success. The operation was, therefore, as it were abandoned in France, as in England, and even so lately as four years ago, M. Roux partook of the general prejudice, when a case presented itself to him which gave rise to an idea that must effect an extensive change in the opinions of surgeons upon this point, and be productive in the end of the most happy results.

CASE 1. — The wife of a physician of Normandy, who had been married very early in life, became pregnant in her twentieth year; the labor was tedious, and the application of the forceps necessary, the result of which was, a complete laceration of the perineum, extending from the vulva to the anus; the patient was not submitted to any treatment, and was seen by M. Roux, two years after the accident, when the parts presented the following appearance: — the fissure had taken place exactly upon the median line; its edges were supple and perfectly cicatrised, and the vagina and anus formed one opening; the fissure extended, moreover, about half an inch through the recto-vaginal wall.

The inconvenience produced by such a state rendered some attempt for the relief of the patient necessary, and M. Roux consented to undertake the operation, which was accordingly performed in the month of January, 1832. Having no experience of his own to guide him, and being acquainted with no other cases than those recorded by Saucerotte and M. Dieffenbach, M. Roux resolved to follow the method pointed out by those surgeons and to employ the twisted suture.

The operator commenced by cutting away the edges of the cicatrised wound, from the vulva to the anus, after which he united the fissure of the recto-vaginal wall by a simple point of suture. Four silver pins were introduced from one side of the wound to the other, being distant from each other about half an inch, with an interval of an inch between the edge of the wound and the point where the pin was introduced; the threads were drawn moderately tight, and although the perineum seemed a little tense, it was not thought necessary to make the lateral incisions recommended and practised by the Prussian surgeon.

The patient's husband, a well-informed physician, paid her every attention that was possible, and things went on favorably for some time; on the sixth day the pins were removed, and the edges of the wound appeared to be united; but this was completely illusory; the uniting medium was merely a glutinous matter which gave way in a couple of days, and the state of the patient became as distressing as ever.

In spite of this unfortunate result, it was resolved to make a fresh attempt, which was put into execution in the month of May. The cause of failure in the first operation, seemed chiefly attributable to the twisted suture, employed, which acted principally on the external surface of the wound above, without keeping the deeper-seated parts in contact; thus the bottom of the wound remained open into the vagina, and was constantly moistened by mucus from that canal. Hence M. Roux was led to the reflection that the quilled suture would be preferable, and this method was put into execution. Two fragments of a gum-elastic bougie were used for the cylinders, and the edges of the wound were again brought into perfect contact; on the seventh day the cylinders were removed and all the sutures withdrawn, when it was found that the edges of the wound were consolidated in a manner that offered little appearance of their again separating, the cicatrix daily acquired fresh strength, and was finally completely formed.

The perineum now differed but little from the healthy state, it was two inches in length, was composed of two moieties perfectly similar, and whether examined by the anus or vagina felt strong and solid. The subject of the present case left Paris in the month of June, at which time there still existed a very small opening between the anus and vagina, in the recto-vaginal wall, but this soon became completely closed; the lady became pregnant toward the end of the year, upon which the operation was performed, and was delivered after some hours of active labor, without suffering any serious injury of the perineum or other accident.

We can readily conceive, says M. Roux, the advantage which the quilled sutures possess over the others; as the threads are introduced by means of curved needles, a greater portion of the inguments can be embraced than when we use the straight needle, and hence we have not to fear that the sutures may come away too soon; besides, the cylinders exercise an equal pressure all along the edges of the wound, which are not dragged towards each other in the same manner as when the other species of sutures are used.

As to the period most proper for attempting the operation, M. Roux thinks that in cases of extensive injury to the perineum and recto-vaginal parietes, it will be prudent to wait until the health of the woman has been somewhat re-established, the edges of the wound cicatrized, and the surrounding parts freed from the irritation and inflammation consequent on the violence which generally occasions this accident.

It is worthy of notice that in all the cases operated on by M. Roux, the degree of inflammation which came on after the application of the sutures never exceeded that which was strictly necessary for the union of the wound; and although a great quantity of purulent matter was in all cases discharged from the vagina, the injection of emollient fluids was sufficient to prevent any ill consequences which might have arisen from the stagnation of this matter in the vagina or about the wound. It should also be remarked, as the circumstance might otherwise occasion some alarm, that all the females were unable to make urine for a few days, and the use of the catheter became necessary. In each case, also, after the removal of the sutures, it was found that the wound was not entirely closed in the vicinity of the anus, but presented a small slit, like that arising from the division of a fistula in ano; but this opening was of short duration, and the communication between the anus and vagina was finally closed, although long after the consolidation of the perineum it gave passage to the intestinal gas and liquid feces. — *Gaz. Med. Paris.*

M. G. BRESCHET'S NEW MODE OF CURING CIRCOCELE AND VARICOCELE.

Varicocele and Circocele are, as is well known, only varieties of the same disease; the first being a dilatation of the veins of the scrotum, the other of the spermatic chord, or testicle itself. Authors say this disease is more generally found in adults and in old people, but M. Breschet has had occasion to remark it much more frequently in young subjects, where it has been produced by an abuse of venereal pleasures. Whatever may be the cause of the disease, the symptoms are not confined to a simple distention, increased by heat, exercise, &c., but the patient experiences excessive pain along the chord, which is so severe as sometimes to give rise to the idea of a neuralgic affection.

The symptoms, in most cases, resist every means employed to combat them, or disappear for a short time, to return again with increased force: the veins gradually become more and more engorged; and M. Breschet has seen examples where the mass formed by the vessels of the scrotum and chord had acquired the size of a fist, or of the head of a young child. In such a state the disease has been considered incurable by most surgeons, who content themselves with recommending a suspensory bandage, and the application of topical astringents. Petit attempted the radical cure of the disease by taking up the vessels of the chord, and on two occasions practised the operation with success; but further trials have produced effects analogous to those which it is well known, succeed so often to the ligature of veins in the extremities, and his example has few followers.

Latterly, the ligature of the spermatic artery has been advised; but the testicle is thus deprived of nutrition, and falls into a state of incurable atrophy. Finally, castration is recommended by some surgeons. Without alluding to the severity of this operation, and the removal of so important an organ as the testicle, it is clear that the method can only apply to cases of circocele. It therefore remained to seek for some new mode of cure; and M. Breschet conceived the idea of applying pressure to the varicose veins,—a method which had been attended with success in several cases where it had been put in practice. The following case, which was treated in the *Hôtel Dieu* during the course of last year, presents many interesting particulars.

CASE *of Circocele and Varicocele of the left Testicle, treated by pressure. Cure.* — The subject of the present case, 29 years of age, first perceived some swelling of the left scrotum at the age of 15: a few years later the vein of the chord began to dilate, and to occasion a great deal of inconvenience to the patient, who in vain applied for relief to several surgeons; in consequence of which he entered the *Hôtel Dieu*, on the 27th May, 1833, at which time the state of the parts was as follows: the integuments of the testicles were soft and relaxed, and knotted by various dilated veins, several of which had attained the size of the little finger. The left testicle did not appear to be enlarged; but the epididymis formed a large soft mass of vessels, which might be diminished by pressure, and was insensible.

M. Breschet was at first content to prescribe absolute rest, and the application of linen cloths, dipped in cold lotion. This treatment was continued for a month, and the veins of the scrotum and chord were diminished a little; but this improvement was only temporary; and whenever the patient walked about the ward, the varicose state returned to such a degree as to indicate that in a short time the disease would resume its ancient aspect.

M. Breschet now resolved upon putting into execution an idea which he had previously conceived viz., to obtain the obliteration of the vessels by means of compression. For this purpose he procured small iron forceps, which acted by the elasticity of the branches alone. These were soon found to be inapplicable; and others were manufactured, the branches of which might be approximated by a screw to any degree of pressure. These were now applied to two of the largest veins upon the scrotum: they occasioned some pain, and a slight inflammation, which was easily removed. As the branches of the forceps were brought closer to each other, they produced a dry eschar, which soon became converted into an ulcer: the ulcer healed in a few days, without having discharged any blood; and the vein was gradually obliterated, leaving no trace of its existence, either by its color or size. All the other veins of the scrotum, sufficiently developed to be seized by the forceps, were treated in the same manner, and with the same results. There still, however, remained the varicose veins of the chord, which might present many obstacles to the employment of the means already successful: these were therefore modified; a larger forceps, with curved blades, so as not to compress the fold of the skin too strongly, was procured; two of these instruments were applied to the chord, one close to the inguinal ring, the other near the testicle,— the vas deferens, which was easily recognised by its volume and sensibility, being removed from the action of the blades.

The instrument at first caused a good deal of pain, which was mitigated by topical applications; their use was continued for seven days, during which time they produced, at first, an inflammatory tumefaction of the compressed parts, and then a superficial eschar; the ulcers resulting from these eschars were healed within fifteen days, when the fortunate results of the pressure were clearly seen; in fact, the chord no longer presented any knotted appearance, and was nearly of the natural size. However, there still remained a small mass of varicose vessels between the point where the lower forceps had been placed, and the origin of the epididymis from the testicle. Two other instruments were therefore applied, with all necessary caution, to avoid the vas deferens; they also remained on for seven days, and equally produced some inflammation, pain, and eschars; after which the varicose engorgement rapidly diminished and disappeared. The testicle was now found in a healthy state,—of the natural consistency and volume. The patient was recommended to continue in the hospital for a month after his cure was complete, during which time he walked about for whole days without suffering any inconvenience, or return of his original complaint.

From these facts we are entitled to conclude with the author, that the method of treating varicocele and circocele by pressure, is, 1st, a simple process; 2nd, easily executed; 3rd, is applicable to every stage of the disease; and 4th, is certain in its results, while it does not expose the patient to the hazard of any accident. — *Gaz. Med. Paris*.

THE ADVANTAGES OF TURNING THE FŒTUS BY THE HEAD RATHER THAN BY THE FEET.

Up to the end of the 16th century, the only mode of turning ever practised was by bringing down the head first; and we find this conduct recommended, not only in such cases as are admitted at the present day to acquire artificial delivery, but even in common pelvic and feet presentations. Soon after the above mentioned date, turning by the feet was first proposed, but it was not until the commencement of the 18th century that the practice was generally followed. One of the professors of the School of Strasburg resisted this innovation, strongly maintaining the superiority of the old regime; and his advice was approved of by many of the German practitioners. To justify this preference it was asserted that when the head presented first, the compression caused by the os uteri is not sufficient to injure the encephalic contents, and moreover, the communicating circulation between mother and child remains unobstructed; whereas in presentations of the lower extremities, the thoracic and abdominal viscera are exposed to a dangerous compression, and the fluids are driven back upon the head, thus causing frequently a fatal cerebral congestion. In confirmation of the truth of this statement, we are told that only one child in twenty delivered by the head is still-born; whereas, the proportion is one to five in feet presentations. In conclusion, it is alleged that whenever the fœtus is moveable within the uterus, it is quite as easy to affect the turning by the head as by the feet.

M. Dubois dissented from the above arguments. He contended that the described dangers of any compression on the abdomen and thorax were most unnecessarily exaggerated, and instanced two cases wherein the shoulders presented along with the head, and yet the children were delivered without any contusion of the thoracic and of the abdominal viscera.

The dread too of the retropulsion of the blood upon the head was an offspring of fancy rather than a result of experience, he did not agree with them in their belief that the os uteri exercised such a constrictive pressure as was alleged; the parts of the fœtus which have already escaped from the uterus are subjected to a less degree of pressure than those still contained within its cavity; and hence we can readily explain why the blood should be driven to and accumulated in the former. Do we not observe that when an arm is born first, the member frequently becomes much swollen? now this swelling arises from the pressure being less upon the arm than upon the rest of the body. True it may be, that in many children who die after feet presentation, visceral congestions are not unfrequently discovered; but the cause of these is the compression of the umbilical chord, and not the retropulsion of the fluids which M. Flamant believed to take place.

The compression of the chord is a necessary danger attending all births by the feet, and indeed it constitutes a very serious objection to the process of turning; the child is very often asphyxiated, and in such a case we find upon dissection the same phenomena which are observed after drowning or hanging, viz. an apoplectic plethora within the head, great congestion in the veins of the cerebrum and other viscera.

The calculations which have been adduced to prove the greater safety of turning by the head than by the feet, are not strictly correct, as will appear from the following statement of M. Dubois.

In all such calculations, to ascertain the comparative mortality of the different modes of delivery, we must be careful to exclude from our tables all cases wherein the child has died before actual accouchement has commenced; or wherein the labor has been premature, and the child may be therefore not well capable of independent life. Now the new tables which have been recently formed at the Maternité of Paris, on these principles, shew, that from the 1st of June, 1829, to the 1st of June, 1833, 10,724 children have been born at the hospital; of these 10,262 were born by the head, 391 by the lower extremity, 59 by the trunk, and — 30 by the face; of the 10,262, 9867 were at the full period of gestation, and 395 were not. The 9867 may be reduced to 9837, because, in 30 of the cases the fœtus was known to be dead before delivery commenced, and the 395 premature cases may be reduced to 278; for in 83 the fœtus had been dead for some time, and in 34 it was too imperfectly developed for the maintenance of independent life.

Of the 9837 deliveries by the head at the full time, 191 were born dead; the proportion is therefore one in 51 or 52; and of the 278 prematurely born, 48 were born dead, or one in every 5 or 6. Of the 391 deliveries by the lower extremity 238 were at the full term, and 153 before the term; from the first number we must deduct 7, who were dead before labor began; and out of the remaining 231, 21 were born dead; a proportion of one to eleven. From the 153 we must deduct 63, in which the child had evidently died during pregnancy, and 30, in which it was too young for independent life; and out of the remaining 60, 10 were born dead; or one in six. From these calculations it appears among other results, that the fœtus at the full period can endure the '*fatigues of accouchement*' with much greater safety than when born at an earlier period, whether they are delivered by the head or not. M. Dubois draws our attention to the important difference in the results by the previous deduction of all the cases in which the fœtus either had been dead for some time before labor, or was incapable of life when delivered. Thus had we enumerated these cases among the mortality in the 10,262 head presentations, we should have had 386 deaths, or one in 25; whereas we have fixed it above at one in 51 : and in the 391 feet presentations the deaths would have amounted to 134, or nearly one in two instead of one in eleven. With regard to the comparative advantages in practice of turning by the head, M. D. admits that in some cases the operation is not only possible, [Mad. Lachapelle was wrong in denying this,] but also abundantly easy. He has himself performed it twice when the shoulder presented; but the operation is much more difficult than that of turning by the feet, and should the liquor amnii have copiously escaped, or should the uterus be firmly contracted around the child, the manœuvre is almost impracticable. In the 59 trunk presentations, two were delivered by means of turning by the head; in a third case the expulsion of a putrid fœtus took place by the shoulder; and in the remaining 56 the child was brought down by the feet. Out of the whole number 59, in 25 only did the child survive; but M. Dubois is of opinion that a still smaller number would have been saved had turning by the head been tried in all. — *Med. Chir. Rev.*

TREATMENT OF CHRONIC BRONCHITIS.

Dr Craigie, in an interesting report on the cases treated in the Royal Infirmary, contained in our Edinburgh contemporary for January last states that the remedies under which recovery from bronchitis was most readily affected were, blood-letting from the arm to the amount of sixteen or eighteen ounces, followed by the detraction of blood from the chest between the shoulders, by cupping or leeches, or both, or from the anterior part of the windpipe by leeches, blisters between the *scapulæ*, and a mixture of squills and antimony, with opiates. In some Dr C. found a powder consisting of one drachm of supertartrate of potass, half a drachm or a scruple of carbonate of soda, and ten grains of nitrate of potass, of great use in cases in which there was reason to apprehend, from the scantiness of the urine, that the disease was passing from the bronchial membrane to the submucous tissue, and beginning to effect the circulation of the lungs.

In several cases of the chronic disease Dr. C. tried the tincture of the *Lobelia inflata;* but in one only, in which other remedies were also used with benefit, did it seem to be productive of advantage.

In cases of chronic *bronchitis* of aged enfeebled subjects, with excessively profuse secretion of frothy mucous fluid, Dr C. found acetate of lead and opium in doses of three or four grains of the former to half a grain of the latter, three times daily, of much use. This remedy required to be alternated with the use of the compound colocynth pill, or a small dose of castor oil every second or third day, according to circumstances, in order to obviate the effects of constipation.

Another agent equally powerful, and not so liable to injure, in the treatment of chronic *bronchitis* with profuse secretion, is according to Dr C. the sulphate of zinc, with extract of *hyoscyamus* or opium; in doses of one or two grains of the former, to two or three of extract of *hyoscyamus*, and a half grain of opium. Its effect is not merely to check undue secretion by its astringent power, but by operating on the capillaries generally, and those of the bronchial membrane in particular, it tends to restore their natural properties, and propel their contents in the proper channels.—*Am. Jour. Med. Sci.*

BLOOD BATHS.

According to a dark tradition which is incidentally mentioned by Pliny, the ancient kings of Egypt used to bathe in human blood when they were seized with leprosy. A similar story is told of the emperor Constantine; but he seems to have been restrained from employing this revolting remedy in consequence of a vision; and he is said to have been cured by baptism. No great weight can be attached to these ill authenticated stories; yet it is but too true, that, both in ancient times and in the middle ages, decided healing virtues for the cure of leprosy were supposed to exist in the blood of innocent children and virgins, and that occasion was given thereby for numberless cruelties. It is needless to refer here to the remoter traces of the belief in the expiatory or healing properties of pure blood; they ramify far, and pass into the most ancient times. Cures of leprous people by the blood of animals, in employing which certain symbolical customs were observed, are mentioned in the books of Moses; and it might not be difficult to discover similar forms among all the nations in the world. During the middle ages the delusion about the healing virtues of human blood, which must have had horrible effects in the great plague of leprosy, received a check from the impression, that only the blood of those children and virgins would prove efficacious, who offered themselves freely and voluntarily for a beloved sufferer. This idea is particularly expressed in the touching story of 'Poor Henry,' which forms the subject of one of the most beautiful poems of the thirteenth century. A Suabian knight, who sits in the lap of happiness, is seized with the leprosy. In order to escape *civil* death, he seeks through the world for help. The physicians of Montpelier can give him no assistance: he hastens to Salernum. Here one of the Masters makes him acquainted with the apparently hopeless means of cure. Sad at heart, he returns home, and prepares himself to sorrow out the remainder of his days in solitude. A girl of twelve years of age, the daughter of a countryman, conceives a passion for the unfortunate knight, attends him affectionately, and, upon accidentally hearing of the freewill offering, cannot be dissuaded from her resolution to purchase the recovery of her master with her life. Both set out for Salernum, but the catastrophe is not fatal: Henry gets rid of the leprosy, and rewards his generous benefactress with marriage. The story of Amicus and Amelius is another of the same sort, which affords no less ground for concluding, that the superstition of which we speak was scarcely disbelieved in any quarter.

In connexion with this, we should not omit to place the story which is told of Louis XI., that he had a mind to evade his approaching death by the use of the blood of children. Klinger has employed the incident to exalt the horrors of his tremendous version of Faust: and Sprengel, too, has given it credit, and has even spoken of the actual baths having been used. But it is by no means a well-authenticated circumstance, for we cannot discover a trace of it in any truly trust-worthy source. The physician, however, to whom the bloody ordinance is charged, is an historical personage: he is no other than the notorious Jacques Cotier. — *Medicinische Zeitung of Berlin.*

PROPHYLACTIC PROPERTY OF BELLADONNA.

At Monastir, in 1829, scarlatina raged, both among our troops and the inhabitants of the towns and villages where we were quartered. The grand vizer, who had expended much time and money on the discipline of his favorite *corps d'armée*, gladly accepted the proposal of Dr Oppenheim to try the effects of belladonna. As the troops were generally very young men, and totally unaccustomed to narcotics, the dose he gave was comparatively small: thirtysix grains of the extract of belladonna were mixed up with one pound of the extract of liquorice, and ten grains of this were given morning and evening to each soldier. The success of the experiment far exceeded his most sanguine expectations, for not more than twelve men, out of twelve hundred, sickened after this plan was adopted; of these twelve, six died, and it is to be remarked, that the disease continued unabated among the inhabitants where the soldiers were quartered, after it had ceased among the latter, although they lived in the same houses. — *Edin. Phil. Jour. & Monthly Archives of the Medical Sciences.*

PREPARATIONS OF SARSAPARILLA.

J. B. Caventou believes that the most efficacious preparations of sarsaparilla are those obtained in the old way, viz.: a long decoction, after a previous maceration for twentyfour hours. He thinks that the bitter and nauseous principle is quite distinct from the active principle of the plant; and what proves it to be so is, that it is completely separated or destroyed by reiterated decoctions. It is certainly unfortunate that a good chemical analysis of sarsaparilla should still be wanting; and that we should not know to which of its constituent principles we ought to attribute its medicinal virtues; but if we may judge from some experiments that he made, nothing is easier than to explain how the decoctions of sarsaparilla are deprived of their bitter and nauseous principles: the starch contained in this root plays an active part in this separation: the decoction, in cooling, precipitates a flaky matter of a dirty white color, and which is the result of the combination of the starch with one of the principles of sarsaparilla. This combination is soluble in hot, and insoluble in cold water. Is it a tanning matter that thus precipitates the starch? He does not think so, since the infusion of sarsaparilla is not disturbed by animal gelatine; it is a principle peculiar to sarsaparilla, and which, combined with the starch, and separated by cold from the decoctions, is entirely foreign to the properties of the plant. Without affirming that it is the bitter principle which is thus separated from the decoctions by the chemical re-action he has just mentioned, he is, however, strongly inclined to think so, because he has succeeded in depriving a watery solution of sarsaparilla of its bitter taste, by beating it up with a certain quantity of starch jelly; he thus artificially obtained what is naturally produced by decoction.—*Lane's Monthly Archives.*

IDIOTCY PRODUCED ARTIFICIALLY IN CHILDREN AND ADULTS.

Although insane persons are so rare in Turkey, naturals and idiots are not so unfrequent; and occasionally idiotcy is produced in children artificially, by means of giving the child small doses of narcotics from its very infancy; a practice which, by stupifying the sensorium, prevents the mental development, and ends by producing a state of fatuity. This is an extremely curious fact, and I believe that Dr Oppenheim is the first who has given us authentic information upon the subject. This practice of rendering persons idiotic is the source of great emolument to some; and Dr Oppenheim says, that it is carried into effect, not merely upon children, but upon adults, when it is judged necessary to render them incapable of conducting their affairs, while at the same time, their removal by death appears, for certain reasons, impolitic and inexpedient—*Edin. Phil. Jour.*

CLASSIFICATION OF THE MEDICAL PROFESSION IN PRUSSIA.

The medical profession in the Prussian states is divided into the following orders:

I. *Graduate Practitioners of Medicine.*

This, the highest class, comprehends two subdivisions;—

1. Those who are graduates in surgery as well as in physic, and who thus unite in themselves whatever the medical art embraces in its entire extent. They are physicians and surgeons (*chirurgico-medici, chirurgiatri*), or physicians and operators together. And in order to attain this rank, they are required,—

(*a.*) To have regularly taken their degrees as doctors of medicine and surgery. The term *regularly* here implies that the person shall have obtained the doctorate, after having in the first instance given proofs of a sufficient school education; then by going through a four years' curriculum in a University, commencing it with a *Tentamen philosophicum*, passing an examination before the faculty, and in conclusion, defending publicly an inaugural dissertation composed in Latin by himself. Then he shall show that he has gone through with success. *(b.)* The required courses of anatomy; *(c.)* Akiurgy, (mechanical or operative surgery); *(d.)* Clinical surgery; *(e.)* An examination on clinical medicine, conducted in the Latin language; and *(f)* The oral final examination, that for the diploma; the extent of this trial takes in the whole range of the healing art.

Having complied with all these requisites, the candidate takes the oaths, and receives the diploma; and he thus becomes entitled to turn his acquirements to account, by exercising the medical art in all its branches. The minor surgery alone and minor offices, graduates of this high order, are obliged to relinquish for the benefit of the pure surgeons in those places where such are settled; those cases, of course being excepted, where the occurrence of delay would be dangerous.

Whether the practitioner belonging to this class shall or shall not have the additional title of operator, depends chiefly on the result of his akiurgical and clinico-chirurgical examination.

2. Those who are graduate practitioners of medicine only (*medici*). These are confined to the practice of inner medicine (*innere Heilkunde*); but they are by no means allowed upon this account to dispense with a knowledge of surgery: they are only not permitted to practise it, nor are they required to give proof of their practical ability in this respect.

To obtain the diploma of a practising physician of this class, the candidate must show, *(a.)* that he has regularly graduated as a doctor of medicine; (*b.*) That he has gone through with success the anatomical course; *(c.)* The clinical-surgery examination; however, with reference only to the pathological part of surgical diseases, omitting the operative detail; *(d.)* The clinical-medicine examination; in Latin; and *(e.)* The oral concluding examination, in which the candidate shall be examined, among the rest, on the nature and treatment of surgical diseases.

The persons who belong to this order of the profession, comprehended under the two preceding subdivsions, besides the privileges already mentioned, are alone qualified for appointments as medical officers of state, from a chief medical privy councillor down to a physicus, provided they have previously given proof of the requisite knowledge in midwifery, have performed their medico-legal exercises with approbation, and have gone through the stated examination for the physicate. It is also only graduate practitioners of medicine who are eligible to the higher medical professorships; and in the military medical service, it is only those who belong to the first subdivision who may obtain the higher professional appointments, from staff-physician-general down to regimental physician.

II. *Surgeons of the First Class.*

These are medico-chirurgi, or iatro-chirurgi, who have not taken a degree. Individuals of this order must possess the requisite knowledge for treating inner as well as outer maladies, according to the precepts of the schools. They must, therefore, in order to be admitted to an examination, and to be qualified for their diploma, show *(a.)* by gymnasial certificates, or a preliminary tentamen, that they possess the requisite general elementary knowledge, and at least so much Latin as to be able to translate the Pharmacopœia and some easy author, and to write a prescription correctly. Further (*b.*), they must show either that they have gone through a regular three-years' medico-chirurgical course, and have obtained the requisite practical ability from clinical instruction, or that they have attended the prescribed courses of lectures, and have for the same length of time, at least, acted as assistant-surgeons in a military or civil capacity. Then they must have gone through with success, (*c.*) the anatomical course, (*d.*) akirurgy, (*e.*) clinical surgery, *(f.)* the medico-clinical examination in German, chiefly touching acute diseases, and of a purely practical tendency; and *(g.)* the oral final examination for the diploma, which shall be as well on medical as on surgical and pharmaceutical subjects.

Whether they shall obtain the additional title of operator, depends on the issue of their examination in practical and clinical surgery. But the privilege of medical and surgical practice accruing to this class of surgeons, depends on the following external circumstances. It is only when they choose to settle in a place where there is not already a graduate practising physician, that they may practise medically: but the privilege continues with them, although a graduate may subsequently come to settle in the same locality. If, however, they wish to practise in large towns, or where there are already graduates residing, and there be no need of a medical assistant, they are then allowed to treat surgical cases, and purely medical practice is forbidden them. An exception is made in favor of those surgeons of the first class who hold military or civil appointments — such as battalion physicians or district surgeons; to whom, in consideration of their not being at liberty, in the first instance, to choose their own locality, it is conceded to practise medically as well as surgically, in all places wherever they may be, and as long as they are in the service of the state. For the rest, the surgeons of the first class are bound, in cases of consultation, to pay due respect to the opinions and suggestions of the graduate doctors.

Surgeons of this class being appointed chiefly with reference to their practical utility, with a view to the supplying, by their means, the country folk and inhabitants of small towns with proper medical assistance, are alone held eligible to appointments as districts surgeons, when they have previously obtained a midwifery license, and passed successfully the medico-legal examination; as also they may be promoted to the office of surgical assessors in the medical colleges, to district paupers surgeoncies to be assistant physicians and surgeons in hospitals, and, in the military service, battalion, garrison, and government staff surgeons.

An objection has been made to the introduction of this class of the profession (which has in point of fact, proved itself to be the most truly useful, perhaps, of all), that, 1. there is thus provided for the people in the country a less competent class of medical practitioners than for those in town; 2. that when these surgeons are held competent for internal practice, it is unfair to refuse them the liberty of practising medically in large towns; and, 3. that the well earned privileges of the graduate doctors are prejudiced and injured. All this, however, is founded in mistake. The surgeons of the first class, though only allowed the title of surgeons, are just as competent for universal practice as the graduate doctors. It is not the proof of their acquirements adapting them for universal practice that is remitted to them, but that learned education requisite for the cultivation of science: besides the examination required of both is exactly the same. It is not to be denied that a man may be a very useful and most successful practising physician, without having any pretensions, at the same time, to a learned education, or being competent to promote medical science. On the other hand, our most learned physicians, the heroes of science, are often not the best practitioners: one may thus be both a learned and a practising physician, but also either separately. So far, then, as mere ability for inner practice is concerned, there would be no reasonable ground for refusing to surgeons of the first class the right of treating medically the dwellers in large towns — a right which is enjoyed by surgeons of the same class when in official situations.

But the object was to provide the country folk and inhabitants of small towns, who were so frequently destitute of genuine medical assistance, with a better instructed and more variously accomplished class of practitioners than they had under the old system; and for great towns, where professional labor can be liberally remunerated, to secure the required supply of authorized assistant-surgeons, and thus again to put a stop to the bunglings of the mere barbers. For this reason, it was necessary to lay down certain restrictions for surgeons of the first class, with regard to their practising medically: such as that they were to be recognized as medical practitioners only when there was a lack of that class — because they would otherwise (like the licentiates, their predecessors) take good care not to settle in the country, where they would have less profitable and far more arduous duties imposed upon them than in town.

The objection, then, that it is unjust to forbid this class medical practice in large towns, at once disappears. It is only to the surgeon of the first class who is in the service of the state, that this privilege can be permitted ; because, otherwise, such an individual, suffering a greater loss by the prohibition of the privilege of inner practice than the gain that accrues from his very parsimonious pay, would gladly remain unattached to the service, and the state would soon find itself constrained to fill up its appointments with an inferiorly qualified class of surgeons ; and that, too, in the large towns themselves. And, in reality, the country, as well as the military service, requires a class of professional men specially qualified for the duties. The graduate doctor, if he be not at the same time a surgeon, can be as little serviceable in military service as in the country, and, in general, cannot get a livelihood in the latter without some official appointment at his back. Neither his taste for intellectual society, nor his endeavor to keep pace with the advancement of science, nor the pretensions which he can reasonably make to a better way of living, can here find their contentment. By the multiplying of graduate doctors, the towns would be overstocked with them, while the country would remain unprovided with the requisite medical aid ; as the experience of various inland parts can testify. Now this defect could only be remedied by the introduction of a suitable class of practitioners, who, by reason of an inferior scientific education, a less expensive mode of attaining their professional standing, and by reason also of the lower condition of life from which, for the most part, they are sprung, have thus fewer demands and less pretensions to affect a station and rank in society. For the rest, it remains undeniable, in spite of the many objections urged to the contrary, that the country physician, like the military physician of lower rank, requires no such great extent of scientific attainments for the sort of inner medicine which falls to his share; not so extensive at least, as the practitioner in town. The whole host of chronic and acute disorders which are introduced by a sedentary life — by the refinements of cookery, — by the ever-varying fashions in dress, — and by the luxurious habits in towns — are only of rare occurrence in the army as well as in the country. A more uniform way of life, similarity of occupation, and in part an equality of age, give room for a more uniform appearance in the complaints, and preclude those endless complications which are owing to the influences just alluded to ; and in addition to this, the physician in a great city must have acquired, besides his professional knowledge and experience, an abundance of general knowledge and maxims of life, if he wishes to move in the higher circles of society, and to inspire confidence in his skill. All which are no ways essential for the country practitioner.

In fine, as to the objection that by introduction of surgeons of the first class, the well-earned rights of the graduates are prejudiced, the repetition of what has been said must be a sufficient reply — that this is the case in a much less degree than it formerly was, when ungraduated physicians (the licentiates) were permitted to practise; for they possessed, in every respect, the same rights and privileges as the graduates did. Moreover, the interests of the profession were much less to be considered in the arrangement than those of the sick, who wanted medical aid and had none. Yet with all this, the doctors, so far from having actually lost by the introduction of surgeons of the first class, have in reality gained by it; for there has resulted from that step a more uniform distribution of medical practitioners, and a limit has been set to their superabundant influx in large towns. By the simultaneously introduced difficulty of accomplishing the University course — by the perfecting and extending of the higher medical curriculum itself — and by the severity of the subsequent examinations for attaining the doctorate — the number of graduates has been very much diminished. Each person who, at present, can only reach the rank of surgeon of the first class, could, on the old system, have graduated, as competent for inner practice; or he went through the examination for the licentiateship, and then took his degree into the bargain, without, after all, possessing more acquaintance with the science of his profession than does the present surgeon of the first class. Only the name and the privilege have been altered, not the thing itself. Thus, by the introduction of surgeons of the first class in the Prussian States, there has not been one more practising physician added than there would have been without this class; and only the number of *unlearned* doctors has diminished in proportion as there has been a vent opened for them among the first class surgeons.

III. *Surgeons of the Second Class.*

The candidate who wishes to obtain a diploma as surgeon of the second class, must show either that he went through the education and aprenticeship prescribed by the medical edict of 1725, or that he had been a military assistant-surgeon at least for three years, or that he had obtained the knowledge and expertness requisite for a surgeon of the lower rank, by the regular attendance of public places of instruction. In the latter respect the candidate must prove that he has gone through with success a complete (three years) curriculum in a native medico-chirurgical establishment (School of Surgery). Yet will certificates of other lectures, attended even in foreign establishments, be admitted as valid, among which, however, those on bandages, and the use of instruments, on fractures, and luxations, on operations, and surgical clinic, cannot be dispensed with; and together with which it must be also made to appear, that the candidate attended the said clinic not merely as a hearer, but as a practical assistant; that he performed dissections, and took part in the practice of operations on the dead body, and on models (*Phantome*). With these testimonials, the candidate will be admitted by the Medical College of his province to an examination, which is to be completed in four terms.

In the first term, three problems will be proposed to the candidate for written answers, taking care to prevent the possibility of his employing the assistance of another person; these questions to be drawn by the candidate himself out of an urn, from among a number of not less than thirty, and relating particularly to general subjects of physiology, materia medica, and chirurgica, the art of prescribing, the mode of attempting the recovery of the apparently dead, the needful offices for persons bit by mad dogs, poisoned, or in danger of sudden death.

In the second term, the candidate must give a proof of his anatomical and surgical attainments, both by demonstration and practically, on the dead body, when it is possible — but when there is a want of subjects, on anatomical preparations and models.

In the third term the candidate shall be brought to the bedside of the sick, when he shall have several surgical cases set before him, the diagnosis of which he must immediately point out; and he is examined respecting their causes, course and proper treatment. Also the candidate must display, practically, on the living body, his mechanical cleverness in getting ready and applying the dressings in various forms of disease; also, when it is possible, and the occasion may happen to present itself, he shall perform several of the minor surgical operations.

In the fourth or concluding term, the candidate shall be examined by three Fellows of the College, orally, on all the departments of practical surgery, with, however, a constant view to the future destination of the candidate.

The proceedings of the examination, with the proposition for the admission or rejection of the candidate, is then sent into the ministry for their ultimate decision.

Those candidates for examination who, in their examination for surgeons of the first class, have not displayed sufficient professional knowledge, but have nevertheless exhibited the requisite practical cleverness, can only obtain diplomas as surgeons of the second class.

Although surgeons of the second class are authorized, and have proved their competence to treat surgical diseases independently, they are yet called upon to perform various surgical offices for the sick — bleeding, leeching, scarifying, bandaging, &c. — at the bidding of the physicians and the superior class of surgeons; and in this respect are rather to be looked upon as assistants than as independent surgeons. They may in this regard also settle where they please, even in great towns, where they can, in the latter respect alone, obtain an extensive sphere of action, sufficient for their maintenance. On the other hand, medical practice, or the treatment of purely medical cases, is unconditionally prohibited to them; and they are also held responsible for the performance of capital operations — those cases excepted where delay would be productive of mischief, and the assistance of a surgeon of superior rank is not to be obtained.

Dentists.

With the second class of surgeons, *dentists* take their rank — that is to say, provided they do not already belong to a higher class, but are privileged solely for the practice of dentistry. Such practitioners must be examined by the medical Colleges in three terms — by writing, word of mouth, and practically — on anatomy and physiology, the pathology and dietetics of the teeth, on diseases of the teeth and gums, on the efficacy and mode of preparing dental medicine, and on the indications for performing the several operations on the teeth, — along with which they must at the same time show the practical knowledge they have acquired in preparing certain artificial teeth, and whole sets of teeth, as well as in all the mechanical parts of dental surgery, and the application of the various instruments. For the rest, nobody can any longer obtain the diploma of a dentist, or be even admitted to an examination on dental surgery in particular, who is either not already a physician or a surgeon, able to tender the requisite proof of his having attained the technical and mechanical readiness so essential for a dentist, or who, if he have not been already admitted as physician or surgeon, cannot at least show certificates of his having diligently attended lectures on anatomy, general and special surgery, teaching of operations, materia medica, and surgical clinic.

Accoucheurs.

The candidate who seeks to be admitted to examination as an *accoucheur*, must, besides all the other tests (he must have been already admitted as a physician or surgeon), show that he has gone through a complete theoretical and practical course of midwifery, and that he has managed at least two births by himself.

Oculists.

To the examination for *oculists* those physicians, if they please, are admissible, who are not surgeons, but who wish to practise this branch of operative medicine in particular. The want of a particular form of examination for oculists was very properly denounced as a defect in the old system of regulations. Whoever was already admitted as a physician, or operative practitioner in general, was not required to undergo any further test of his ability as an eye operator ; but there are physicians who shall know nothing of operative medicine generally, nor possess any of the requisite qualities for its practice, who yet may have a taste for ophthalmic surgery in particular, and for the operative tact which is adapted to it. The greatest oculists and ophthalmic surgeons of our age, Barth, Schmidt, Beer, Prochaska, Himly, &c. were not surgeons in the general sense, but eye-operators only ; and I need scarcely add how much eye surgery has been indebted to them for the great advances which it has made of late, and whereby it has been raised far above several other branches of general medicine. An especial examination for those physicians who had not been admitted as surgeons, but devoted themselves particularly to eye diseases, and who were desirous of performing the operations that came in their way, was therefore deemed not only necessary, but an essential means of advancing the interests of eye surgery in the state.

State and Forensic Physicians.

To the examination for state medicine, and as a forensic physician (the test for the physicate), only those physicians are admitted, who are graduates in medicine, and pre-eminently the most distinguished, and the most multifariously accomplished of their order ; nor shall they be admitted until they have discharged their professional duties already for a considerable time — have distinguished themselves as scientific physicians — have earned a high reputation — and who enjoy the confidence of their patients, as well as the esteem of their brother practitioners ; and who, withal, have previously been examined as accoucheurs. Requests to be admitted to the examination for the physicate, and thus to become eligible and competent to medical offices in the state, must be made to the ministry, through the royal regencies, whose sanction is further requisite. In like manner, none but surgeons of the first class, and (by an exception in their favor) the *ci-devant* surgeons of large towns, shall be admitted to the examination for medico-legal surgeons, — and that, too, after a previous examination in midwifery.

Together with the preceding arrangements, with a view to prevent any evasion of the legal provisions, it was established, that —

1. All Surgeons, who have been already admitted as such, or who shall be so hereafter, by the national medical faculties, unless they have an express recommendation in their favor from the Ministry for Medical Affairs, shall be ever after excluded from the doctorate; and in case the degree should be conferred upon them by a national or a foreign faculty, such surgeons, on a pain of forfeiture suited to the case, shall not assume the title; and further that —

2. When the doctoral title is obtained supplementally and by exception, through the aforesaid ministerial approval, the surgeon can by no means enter the higher grade of graduate doctor: much more in such than in other cases, the complete compliance with all the requisites of the examination laid down for the class in question is necessary, in order to be able to obtain a new admission.

When the foregoing classification of the profession was published, with a view of putting it in force, it was laid down, that —

1. The actual condition of the already admitted practical physicians (although, as not having graduated, they properly now only belonged to the grade of surgeons of the first class,) should not be disturbed; but that one and all should remain exactly as they were originally settled.

2. The surgeons for large towns, though they ought now only to be reckoned as surgeons of the second class, yet maintained the right to qualify themselves as medico-legal surgeons, and to be allowed to canvass for district surgeoncies; while, however, the limited privilege of surgeons of the first class, with regard to medical practice, was only permitted them when they had submitted to, and successfully passed, the supplemental examinations required for the purpose.

3. Those surgeons who had been appointed to villages and small towns — though they had undergone a far less rigorous and extensive examination than that for the second class surgeons — yet were adopted into this class; and even the privilege of settling in large towns was not denied them, provided their doing so was desirable for the sake of their services in performing the minor surgery, and that the place was not already overstocked with practitioners of the same order, or that, in fine, the still occasionally existing privileges of the surgeons for towns did not militate with their purpose. But the privilege hitherto necessarily belonging to this class, of treating minor medical cases, ceased altogether as soon as they changed their residence, or a medical man, properly qualified, came into the same quarter, or its immediate vicinity.

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